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Employee Psychological Ownership and Work Engagement: An Extension of the JD-R Model

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**EMPLOYEE PSYCHOLOGICAL OWNERSHIP AND
WORK ENGAGEMENT:
AN EXTENSION OF THE JD-R MODEL**

Andriana Rapti

A thesis submitted for the degree of Doctor of Philosophy

University of Bath

School of Management

April 2016

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List of Abbreviations

Abbreviation

WE = Work Engagement

EPO = Employee Psychological Ownership

JD-R = Job Demands-Resources

SET = Social Exchange Theory

POB = Positive Organisation Psychology

UWES = Utrecht Work Engagement Scale

MBI = Maslach Burnout Inventory

ISA Engagement Scale = Intellectual, Social, Affective

COR Theory = Conservation of Resources Theory

POQ = Psychological Ownership Questionnaire

PSS = Perceived Supervisor Support

VBBA = Questionnaire of the Experience and Evaluation of Work

SWING = Survey Work-Home Interference Nijmegen

NWHI = Negative Work-Home Interference

PWHI = Positive Work-Home Interference

EFA = Exploratory Factor Analysis

CFA = Confirmatory Factor Analysis

SEM = Structural Equation Modelling

RMSEA = Root Mean Square Error of Estimate

CFI = Comparative Fit Index

TLI = Tucker and Lewis Index

AIC = Akaike Information Criteria

BIC = Bayesian Information Criterion

ANOVA = Analysis of Variance

Mplus Abbreviations

Weng = Work Engagement

Ded = Dedication

Abso = Absorption

Prevown = Preventative Psychological Ownership

Promown = Promotive Psychological Ownership

Ownse = Self-efficacy (Employee Psychological Ownership)

Ownbe = Belongingness (Employee Psychological Ownership)

Ownsi = Self-identity (Employee Psychological Ownership)

Ownac = Accountability (Employee Psychological Ownership)

Jobsat = Job Satisfaction

Affcom = Affective Commitment

Pss = Perceived Supervisor Support

Mentdem = Mental Demands

Emodem = Emotional Demands

Pwhi = Positive Work-Home Interference

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To everyone who contributed to this research:

«Νενικήκαμεν»

Abstract

This research explores the linkages between employee psychological ownership and work engagement in a Greek public organisation. Employee psychological ownership entails two distinct types of psychological ownership: the promotive and the preventative type. Promotive psychological ownership consists of self-efficacy, self-identity, accountability and belongingness; whereas, preventative psychological ownership consists of the concept of territoriality. Whilst previous research has demonstrated a number of antecedents leading to work engagement including self-efficacy, the relationship between employee psychological ownership and work engagement has yet to be captured and researchers are being strongly encouraged to identify more possible routes towards the emergence of work engagement.

The present study considers the five dimensions of promotive and preventative psychological ownership in the scope of the Job Demands-Resources Model and Social Exchange Theory. Specifically, these five aspects are introduced here as either job or personal resources - the exchange of which creates work engagement. While different types of job and personal resources have been explored in relation to work engagement, there is still room for improvement as the interplay between job resources and demands is the key to higher work engagement. This literature is extended by conducting the first study exploring the relationship between employee psychological ownership and work engagement. This thesis also contributes to the current literature by suggesting employee psychological ownership as a new way of incorporating personal resources in the JD-R framework. Earlier literature views job and personal resources as two different stages leading to work engagement and, specifically, personal resources mediating the relationship between job resources and work engagement (Xanthopoulou et al., 2007); however, the empirical model of the current research suggests that employee psychological ownership is a combination of job and personal resources, which mutually support the appearance of each other and create work engagement. Subsequently, the model is tested using structural equation modelling of data obtained from a

cross-sectional survey of 312 employees, in 13 different departments across the country, in a Greek public organisation. Data analysis assesses the linkages between job demands, promotive psychological ownership (job and personal resources) and work engagement in the JD-R Model and Social Exchange Theory as well as the relationship between promotive psychological ownership (job and personal resources), affective commitment, job satisfaction and perceived supervisor support. A number of demographics are also assessed (age, gender, educational level, post and organisational tenure).

The empirical results indicate that both promotive and preventative psychological ownership are positively and significantly related to work engagement. Promotive psychological ownership also mediates the relationship between job demands (mental demands, emotional demands, positive work-home interference) and work engagement. Particularly, promotive psychological ownership represents a mixture of job and personal resources (self-efficacy, self-identity, accountability, belongingness); they are mutually related to each other, they are associated with work engagement and mediate the relationship between job demands and work engagement. In addition, the relationship between promotive psychological ownership and work engagement is mediated by affective commitment and job satisfaction. Furthermore, promotive psychological ownership mediates the relationship between perceived supervisor support and work engagement. Therefore, current knowledge is enriched by expanding the known set of attitudes that are related to work engagement.

Moreover, the findings also show that job and personal resources, whilst conceptually distinct, do not necessarily have to be assessed separately. Although in current literature they are measured separately and are considered as different stages towards the creation of work engagement, they could also be seen as interacting at the same level. Therefore, employee psychological ownership by including both types of resources, offers a deeper understanding of the relationship between job and personal resources and enables the incorporation of personal resources in the JD-R Model.

In summary, having applied the JD-R Model and the theoretical framework of Social Exchange Theory to elicit the relationship between employee psychological ownership and work engagement across different departments of a Greek public organisation, this study has contributed to the literature in several ways. First, it embeds the relatively new concept of employee psychological ownership within the framework provided by the JD-R Model by introducing the dimensions of employee psychological ownership as either job or personal resources. Second, it examines the relationship between employee psychological ownership and work engagement and offers an additional explanation of employee psychological ownership that enables the creation of work engagement. Third, it offers a new way of incorporating personal resources in the JD-R Model and extends the JD-R Model and Social Exchange Theory by suggesting the mutual relationship between job and personal resources.

Chapter 1

Introduction

This chapter introduces the research background and structure of the thesis. First, the research motivation is presented and the rationale for undertaking this research endeavour is described (section 1.1). Next, the research objectives and conceptual framework are provided and the contributions to knowledge made by this study are briefly outlined (section 1.2). Last, the structure of the thesis is presented (section 1.3).

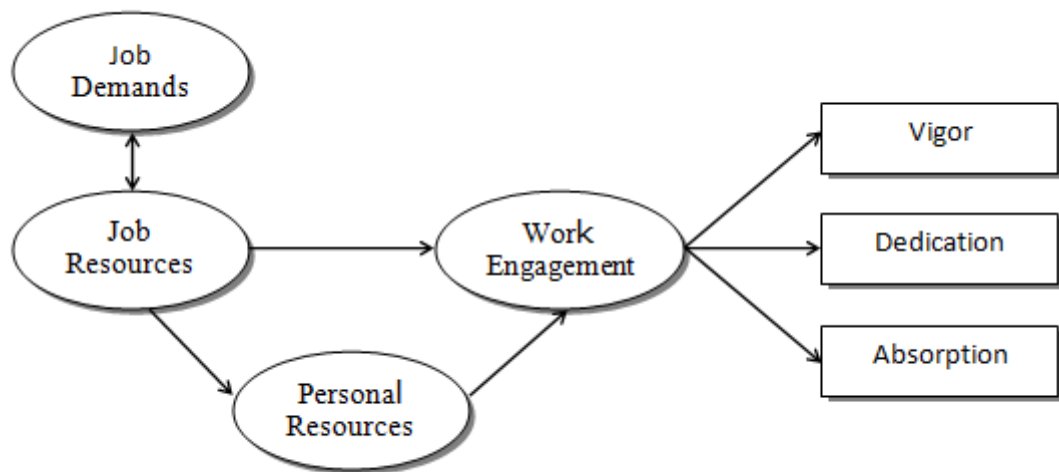
1.1 Research Motivation

Employee engagement is a topic that has attracted a great deal of interest from both practitioners and academics. The emergence of employee engagement complies with the fact that organisations nowadays consider their human capital to be more important than in the past (Ulrich, 1997). Modern organisations are in need of a workforce that will be able to produce better results in considerably less time in comparison to the past. Modern organisations also need employees with the ability and the desire to invest in their jobs in psychological terms (Schaufeli, 2013). This is the point on which the value of engagement is grounded.

Many studies conducted in recent years have demonstrated some important implications for both individuals and organisations (Bates, 2004; Harter et al., 2002). Particularly, employee engagement earned its popularity because of its positive relationship with employee well-being and organisational performance (Christian et al., 2011; Bakker and Schaufeli, 2008; Harter et al., 2002). Engaged employees are expected to perform better than disengaged employees and enjoy higher levels of personal well-being, with implications for the performance of organisations and economies (Rayton et al., 2012). In addition, Xanthopoulou et al. (2009) demonstrate that there is a positive relationship between daily work engagement and daily financial returns; work engagement appears to be positively related to service climate, which subsequently predicts customer loyalty (Salanova et al., 2005).

The academic literature makes use of both the employee engagement and work engagement terms interchangeably. Nevertheless, work engagement is more narrow-focused and precise as it concerns the relationship between the employee and his or her work (Schaufeli, 2013). Work engagement is a motivational-psychological state with three dimensions: vigor, dedication and absorption (Schaufeli et al., 2006). According to the Job Demands-Resources Model, employees become engaged when a range of job resources are available to them, where job resources are the physical, psychological, social or organisational aspects of the job that motivate them to better achieve their work goals (Demerouti et al., 2001; Hakanen et al., 2008). The relationships suggested in the JD-R Model are presented in Figure 1-1.

Figure 1-1
The JD-R Model



Source: Xanthopoulou et al., 2007, p. 135

(The dimension of exhaustion, which appears in the original diagram, has been omitted)

According to Conservation of Resources theory, job resources are important and employees are likely to make efforts to protect and retain them (Hobfoll, 2001). One such resource is employee psychological ownership. Employee psychological ownership, first introduced by Pierce et al. (1991), is a cognitive-affective state in which employees feel as if their job or the organisation they work for is theirs and concerns their “awareness, thoughts

and beliefs' towards the job or the organisation (Pierce et al., 2003:86). Employee psychological ownership entails two distinct types of psychological ownership: the promotive and the preventative type (Avey et al., 2012; 2009; Brown et al., 2005; Higgins, 1998). Promotive psychological ownership consists of: self-efficacy, self-identity, accountability and belongingness, whereas preventative psychological ownership consists of the concept of territoriality. These five dimensions are considered in this research as either job or personal resources. Therefore, employee psychological ownership is a mixture of job and personal resources and according to Social Exchange Theory, the availability of these resources will enable the employees to reciprocate the organisation with work engagement (Cropanzano and Mitchell, 2005; Blau, 1964).

The academic literature has provided researchers with a number of antecedents of engagement. Nevertheless, recent academic work highlights a need to increase the understanding of work engagement through the identification of more antecedents of this important psychological state (Schaufeli, 2012). Hence, the purpose of this research complies with the fact that the academic literature invites future research to identify more resources that could lead to engagement (Mauno et al., 2007). Despite there being over a decade of academic work, many unanswered questions remain about the links between employee engagement and other work-related constructs. One such unexamined area is the relationship between employee psychological ownership and work engagement. While different types of job and personal resources have been explored in relation to work engagement, more academic work is required since the relationship between job and personal resources, represented by employee psychological ownership, is crucial to the creation of work engagement.

In addition, the academic literature has recently turned its attention to so-called positive psychology. Positive psychology concerns the scientific study of human psychology and behaviour and focuses on the characteristics or attitudes that are closely related to employee well-being and that are expected to, subsequently, enhance individual and organisational performance

(Schaufeli, 2013). This research considers organisational life and experiences in a positive way (Positive Organisational Behaviour – POB) and it endeavours to join the studies looking at the positive aspects of organisational life (Seligman and Csikszentmihalyi, 2000), such as work engagement. Employee psychological ownership is a positive psychological resource (Avey et al., 2009) related to accomplishment and success that can enhance performance (Hobfoll, 2002; Fredrickson, 2001). It is also assumed that if researchers focus on positive attitudes and behaviours, it will be easier to combat the negative aspects of organisations by presenting ways towards the creation and maintenance of positive work attitudes.

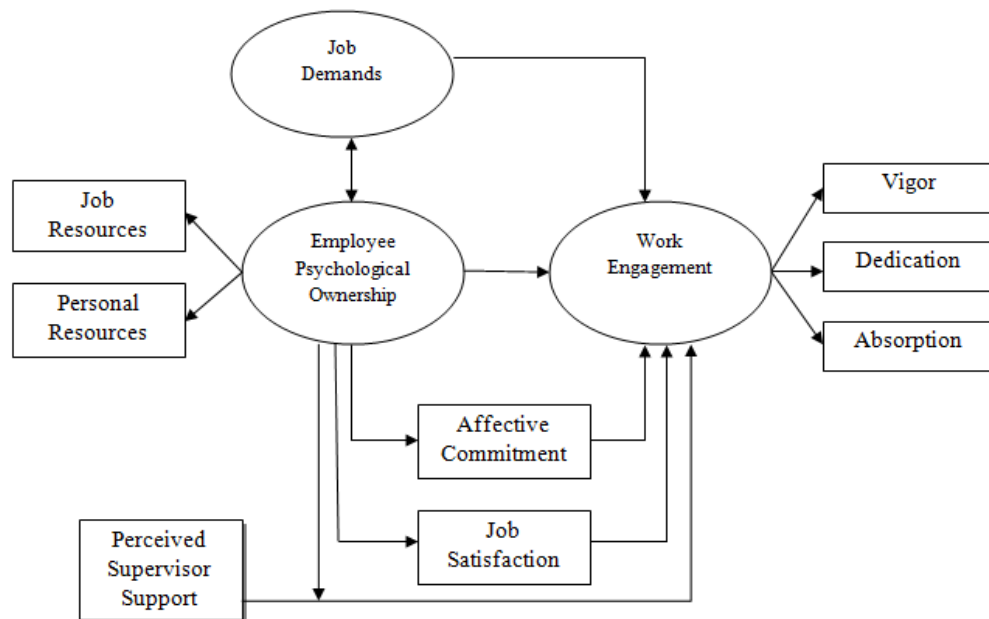
1.2 Research Objectives, Framework and Contribution

This thesis has taken on board the above contentions and developed a framework that will introduce the concept of employee psychological ownership into the JD-R Model and Social Exchange Theory and, hence, will enable the creation of work engagement. Particularly, this study adopted the JD-R Model and Social Exchange Theory in order to explain the nature and importance of employee psychological ownership. Furthermore, the suggested model will assess the relationship between both types of employee psychological ownership (promotive and preventative) and work engagement. This will allow for a clearer observation of the examined constructs. Specifically, employee psychological ownership, in this study, is considered for the first time as a mix of both job and personal resources and is integrated within the JD-R Model and Social Exchange Theory. Work engagement is driven by employee psychological ownership, which includes both types of resources, and mediating links are explored with regard to i) job demands, promotive psychological ownership (job and personal resources) and work engagement, ii) promotive psychological ownership, affective commitment and job satisfaction and work engagement, and iii) perceived supervisor support, promotive psychological ownership and work engagement.

More specifically, the six main objectives of this research are: 1) to identify the relationship between i) promotive psychological ownership and work engagement and ii) preventative psychological ownership and work

engagement, 2) to explain and provide evidence for the mediating role of promotive psychological ownership in the job demands-work engagement relationship, 3) to demonstrate the mediating role of affective commitment and job satisfaction in the promotive psychological ownership-work engagement relationship, 4) to show the mediating role of promotive psychological ownership in the perceived supervisor support-work engagement relationship, and 5) to illustrate the contribution of employee psychological ownership to SET and the JD-R Model, 6) to illustrate the distinctiveness of promotive and preventative psychological ownership from the constructs of work engagement, affective commitment and job satisfaction. Therefore, the model presented in Figure 1-1 (section 1.1) is now reframed as follows (Figure 1-2).

Figure 1-2
Suggested Theoretical Model



By adopting this research framework, the present researcher has sought to extend the relevant literature, in which it is argued that job and personal resources are conceptually distinct and that more antecedents leading to work engagement should be identified in order to increase work engagement (Schaufeli, 2012; Mauno et al., 2007; Xanthopoulou et al., 2007). This study has accepted the challenge of providing the literature with a new way of

considering the relationship between job and personal resources and how this relationship will influence the emergence of work engagement.

In addition, the above model is enriched by adding affective commitment and job satisfaction as mediators in the employee psychological ownership-work engagement relationship. From a social exchange perspective, the job and personal resources included in the psychological ownership concept will satisfy the employees' needs and will enable them to become more affectively committed to their organisation. Subsequently, employees will reciprocate the organisation with work engagement. Also, the above model examines promotive psychological ownership as a mediator in the relationship between perceived supervisor support and work engagement. This is motivated within Social Exchange Theory, arguing that supervisor support may satisfy the employees' needs for self-efficacy, self-identity, belongingness and accountability and is likely to enhance positive attitudes such as work engagement. Further consideration regarding the research contributions is provided in Chapter 3.

With regard to the specific research design that is employed, two points are crucial: 1) the focus of this research is on employees, or else, individuals and they are the key informants with regard to the observed relationships among the study variables, and 2) the employees/individuals who voluntarily participated in this study are part of one single public organisation operating in different departments across the same country, which implies that despite the drawbacks of entailing only one source, variety and diversity can occur but in the desired boundaries of minimising externalities and contextual abnormalities.

1.3 Structure of the Thesis

The thesis has been structured into eight chapters. After this brief introduction, in Chapter 2 the relevant existing literature that covers the theoretical principles of the key literature domains: work engagement, employee psychological ownership, the JD-R Model, Social Exchange Theory, job demands, affective commitment, job satisfaction, perceived supervisor support and how these are conceptually integrated to form the research model presented in figure 1-2 is explained and justified. Subsequently, the research framework that integrates these domains of the literature as well as the key research questions and the intended contributions to knowledge are presented in Chapter 3.

Chapter 4 sets out explicit hypotheses derived from the literature review, as presented in Chapter 2. Specifically, the literature review related to the specific constructs and the relationships between them is used to construct specific arguments in support of each of this study's hypotheses.

Chapter 5 contains the methodology, in which the research design, research methods along with the analytical strategy being employed for this research are explained and justified. First, the ontological and epistemological stance adopted is set out. Second, the key methodological decisions are discussed including the selection of the survey research design and the narrow focus on respondents from one particular organisation. Operational measures for particular concepts described in the literature review are explained as well as the procedures for data collection and the analytical strategy.

Chapters 6 and 7 are empirical chapters in that Chapter 6 presents the pilot study which is conducted in a different organisation than the one where the final data collection is conducted and the results and implications of this first study are presented and discussed. Chapter 7 extends the empirical research of Chapter 6 by presenting the main study, so as to examine the relationship between the study's variables, to test the suggested model and make a significant contribution to the current knowledge. The results obtained from Chapter 6 are used primarily to observe the way the operational measures

behave in that specific context and to enrich the study's results by avoiding data from one single source. The results obtained from Chapter 7 are mainly responding to the identification of the relationship between employee psychological ownership and work engagement, their relationship with the variables under examination, and how this relationship adds some value to the JD-R Model and Social Exchange Theory. Further, the analytical techniques used for hypotheses testing are explained and the results are discussed.

Chapter 8 entails discussion deriving from the findings presented in Chapters 6 and 7 so as to evaluate the importance of the suggested model. Further, implications from this research for theoretical development and management practice with regard to the JD-R Model and Social Exchange Theory and the emergence of work engagement are explored, as well as a consideration of the research limitations and suggestions for future research. The combination of these sections will provide evidence of a novel, original, ambitious, tractable and critically independent research project that will seek to enrich the academic literature of employee psychological ownership, work engagement, the JD-R Model and Social Exchange Theory and deepen the understanding of the examined concepts.

Chapter 2

Literature Review

This chapter provides a record of the developments in academic thinking of the key concepts addressed in this thesis: employee engagement, employee psychological ownership, job demands, affective commitment, job satisfaction and perceived supervisor support. This chapter also delineates the theoretical frameworks that have surrounded employee engagement and employee psychological ownership and provides a critical evaluation of the various scales that have been used in previous research to measure the two core concepts of this thesis, employee engagement and employee psychological ownership.

2.1.1 Definitions of Employee Engagement

In this section the focus is on the different studies developed to support the concept of employee engagement and its gradual establishment in the academic literature. The literature on employee engagement is wide and as suggested by Christian et al. (2011: 89-90) there is some inconsistency in terms of definitions and operationalization. Shuck (2011), drawing on 213 publications, identified four approaches to defining engagement: the Needs-Satisfying approach (Kahn, 1990), the Burnout-Antithesis approach (Maslach and Leiter, 1997; Schaufeli et al., 2002), the Satisfaction-Engagement approach (Harter et al., 2002) and the Multidimensional approach (Saks, 2006). This literature review adopts this taxonomy both for its clarity and its comparability with reviews undertaken elsewhere (Truss et al., 2013).

The Needs-Satisfying approach

Kahn (1990: 694) was the first researcher to address the concept of employee engagement and he defines engagement as the linkage between members of an organisation and their work roles. When employees are engaged with the organisation, they have the tendency to express themselves through physical, cognitive and emotional ways while performing their tasks; they are said to be psychologically present (Kahn, 1990). Kahn (1990) specifically focused on identifying those psychological conditions under which individuals engage and disengage at work. These psychological conditions derive from the work experiences each employee acquires and are supposed to have an impact on their engagement. Kahn's (1990) approach plays an important role in the development of engagement as a concept although it has rarely been used in empirical studies (May et al., 2004). Kahn (1990) offers a theoretical framework to surround the concept of employee engagement, but does not provide any functional operational definition of the construct so as to be able to measure it. This shortcoming has been addressed in other work. Specifically noteworthy are three models of engagement that draw from Kahn's (1990) theory, May et al.'s (2004) model, Rich et al.'s (2010) model of job engagement and Soane et al.'s (2012) ISA model of engagement. These are critically evaluated in section 2.1.3 (p. 31).

The Burnout-Antithesis approach

The Burnout-Antithesis approach draws from the literature on occupational health psychology. Within this approach there are two schools of thought: the first considers engagement as the antipode/positive antithesis to burnout and the second considers engagement as distinct, although negatively related, from burnout. Specifically, Maslach and Leiter (1997: 209) claim that engagement is the antipode of burnout and consists of energy, involvement and efficacy. These facets can be thought of as the opposites of the three burnout components exhaustion, cynicism and absence of professional efficacy (Maslach et al., 2001: 416). Within this approach, engagement is indicated by the level of burnout and cynicism in the sense that lower levels of burnout and cynicism lead to higher levels of engagement (Schaufeli et al., 2006; Maslach et al., 2001). Individuals who present high levels of engagement are expected to present low levels of burnout and vice versa.

Maslach et al. (2001) identify six areas of work-life that can lead to engagement. Maslach et al. (2001: 417) mention that engagement is related to sustainable workload, control, rewards and recognition, social support, fairness and meaningful work. A match between individuals and their work in terms of these six areas will generate engagement; a mismatch between individuals and their work in terms of some or all of these areas is likely to generate burnout (Maslach et al., 2001: 414). This body of work suggests a number of antecedents that could create engagement. Unfortunately, this literature fails to articulate a strong theoretical rationale for why these antecedents will enable employees to reciprocate with engagement. In addressing this deficiency, Saks (2006) suggests that social exchange theory, as an established theory, could explain how these six areas of work-life can be exchanged for engagement.

The second school of thought that exists in the Burnout-Antithesis approach views work engagement as a distinct concept that is negatively related to burnout. Schaufeli et al. (2002: 74) argue that work engagement is “a positive state of mind, characterised by the three dimensions of vigor, dedication and absorption”. According to the authors, engagement is a continuous and

pervasive state which cannot focus on any particular person, incident or behaviour. Vigor is connected to the employee's willingness to invest in the work and performance outcome and the persistence to overcome any kind of difficulty. Dedication is the strong identification of the employee with his/her job and it refers to the sense of significance, enthusiasm, pride and challenge. Absorption, the third dimension of work engagement, takes place when employees are completely concentrated on their tasks and they lose track of time. Absorption is close to the term "flow", introduced by Csikszentmihalyi (1990), and is used to describe the state in which employees have control over their work; they have a clear mind and absolute concentration on their role and the outcomes. However, the terms flow and absorption are not synonymous. Bakker (2005: 27) defines flow as a short-term peak experience which is characterised by absorption, work enjoyment and intrinsic work motivation. This definition of flow is clearly wider than the definition of absorption. Also, flow can take place in any domain of life whereas the definition of absorption is tied directly to a persistent state of mind that occurs specifically in the work domain (Hallberg and Schaufeli, 2006; Schaufeli et al., 2006). Since publication, the Utrecht Work Engagement Scale (UWES) has emerged as a widely used measure of engagement where items reflect the definition of work engagement as a combination of its three dimensions: vigor, dedication, absorption (Schaufeli, 2012). This measure is compared with other measures of engagement in section 2.1.3 (p. 31).

The Satisfaction-Engagement approach

The Satisfaction-Engagement approach draws on nine decades of work by the Gallup Organization. The Gallup Organization was the first to talk about engagement in the 1990s, and drew attention from both practitioners and academics to the concept. This early work drew on previous investigations by Gallup on the satisfaction-performance relationship in organisations (Harter et al., 2006: 4-5). This raised the profile of employee engagement. Gallup, since 1988, has collected data comprising 166 research studies, across 125 organisations and 23,910 business units (Harter et al., 2006: 5). The findings of these studies were used by Harter et al. (2002: 270) to conduct a meta-

analysis (42 studies in 36 organisations and 7,939 business units) indicating a number of antecedents and consequences of engagement.

According to Gallup “employee engagement refers to an individual’s involvement and satisfaction with as well as enthusiasm for work” (Harter et al., 2002: 269). Hence, engagement here is defined in terms of other well-known constructs such as role clarity, perceived supervisor support and supervisory coaching. This creates a conceptual overlap between engagement as defined by Gallup and other work-related constructs. Table 2-1 demonstrates the similarity between the Q12 items and items from other constructs. This similarity is also noted by Schaufeli and Bakker (2010: 16) although here each Q12 item is also compared with scale items of the specific related concepts.

Harter et al. (2002) demonstrate awareness of this possible overlap and they explain that the instrument, Gallup Q12, does not measure engagement in terms of involvement, satisfaction and enthusiasm. They argue that the Gallup Q12 assesses the antecedents of engagement (Harter et al., 2002). Besides, the Gallup Q12 was initially designed to enable managers to understand their employees’ needs better and improve jobs with the aim of creating a satisfied workforce (Harter et al., 2002: 269, 276). Therefore, the Gallup Q12 represents a quite broad operationalization of engagement, attempting to capture many of the wide variety of things that practitioners seem to mean when they use the term ‘engagement’. Whatever the failings of this approach on theoretical and other academic grounds, its broad currency with practitioners and the sheer volume of the data collected suggest that practitioners certainly see value in it, and it has increased the potential for practical impact associated with academic efforts to disentangle the various elements of the Satisfaction-Engagement approach.

Table 2-1
A Comparison between Q12 and Other Constructs

Q12 Item	Other Item	Construct & Author(s)
I know what is expected of me at work	Management makes it perfectly clear how my job is to be done	Role Clarity (Part of the Psychological Climate, Brown and Leigh, 1996)
I have the materials and equipment I need to do my work right	I have the supplies/ tools/ equipment to do my work well	Supplies part of Total Quality Management Practices (Zeitz et al., 1997)
At work, I have the opportunity to do what I do best every day	More freedom and opportunities	Rewards & Recognition (Saks, 2006)
In the last seven days, I have received recognition or praise for doing good work	When I do a good job at work, my supervisor/ coworkers praises my performance	Favorable feedback part of the Feedback Environment Scale (FES) (Steelman et al., 2004)
My supervisor, or someone at work, seems to care about me as a person	My work supervisor really cares about my well-being	Perceived Supervisor Support (Rhoades et al., 2001)
There is someone at work who encourages my development	My supervisor uses his/ her influence to help me solve my problems at work	Supervisory Coaching (Graen and Uhl-Bien's, 1991)
At work, my opinions seem to count	I develop and make recommendations concerning issues that affect this work group	Voice, (Van Dyne and LePine, 1998)
The mission or purpose of my company makes me feel my job is important	The work I do on this job is worthwhile	Meaningfulness (May et al., 2004)
My associates or fellow employees are committed to doing quality work	There is a strong commitment to quality at all levels of this organisation	Total Quality Management Practices (Zeitz et al., 1997)
I have a best friend at work	There is a special person who is around when I am in need	Perceived Social Support (Zimet et al., 1988)
In the last six months, someone at work has talked to me about my progress	My work provides me with direct feedback on how well I am doing my work	Feedback (Van Veldhoven and Meijman, 1994)
This last year, I have had opportunities at work to learn and grow	My current work offers me opportunities for personal growth and development	Learning Opportunities (Van Veldhoven and Meijman, 1994)

The Multidimensional approach

The Multidimensional approach was developed by Saks (2006). Saks (2006: 602) mentions that “engagement has to do with how individuals employ themselves in the performance of their job and it involves emotions, behaviors and cognitions”. This definition resembles the conceptualization of engagement as suggested by Kahn (1990). That is mainly because of the common focus on role performance and the emotional, behavioral and cognitive elements entailed in both approaches. However, Saks (2006), for the first time in the academic literature, makes a distinction between job and organisational engagement. This distinction signifies that an individual has a dual role: the work role and the role as a member of an organisation. Saks (2006: 609) notes that although the two types of engagement are correlated, a paired t-test shows a significant difference between them. Also, job and organisation engagement seem to have different antecedents and outcomes (Saks, 2006). This evidence is somewhat limited, and perhaps this explains why this distinction between job and organisation engagement has not yet been extensively adopted in the academic literature. To the author’s knowledge, only seven studies have taken this multidimensional approach (Lee et al., 2014; Troth and Gyetvey, 2014; Biswas and Bhatnagar, 2013; Prottas, 2013; Anaza and Rutherford, 2012; Dalal et al., 2012; Saks, 2006).

Synthesis

To conclude, all four approaches focus on different aspects of employee engagement. The Needs-Satisfying approach focuses on role performance. The Burnout-Antithesis approach focuses on the positive relationship between work engagement and well-being, or else the negative relationship between burnout and well-being. The Satisfaction-Engagement approach focuses on the relationship between engagement and its antecedents. The Multidimensional approach focuses on i) the relation between engagement and the work role and ii) the relation between engagement and the role of an individual as a member of an organisation.

Furthermore, the four approaches to defining engagement can also be supplemented by the work of Macey and Schneider (2008) who provide a combination of all elements to define employee engagement. The authors explain that the lack of clarity in the definitions of employee engagement should not undermine its importance as a concept. Rather, this ambiguity as seen by the multiple definitions of employee engagement may be because of the fact that engagement is still a new concept (Macey and Schneider, 2008). To address the need for more conceptual clarity, the authors suggest that employee engagement should be seen as a concept that includes: i) trait engagement, ii) state engagement and iii) behavioral engagement. Trait engagement can be explained as an inclination to experience life and work with some degree of positivity or else, it includes proactive personality, trait positive affect and conscientiousness. Trait engagement is reflected in state engagement which is defined in terms of feelings of energy and absorption and includes satisfaction, involvement, commitment and empowerment. State engagement is also seen by Macey and Schneider (2008) as antecedent of behavioral engagement, which is defined as a form of extra-role behavior. Macey and Schneider (2008) present a framework entailing a range of concepts that have been related to engagement, which may create the impression that engagement is a wider term that can potentially cover concepts like organisational commitment and job satisfaction.

However, Saks (2006) suggests that employee engagement is a distinct construct from what academics and practitioners assume. Employee engagement has been criticised because of its conceptual overlap with other better known and established constructs such as job satisfaction and organisational commitment resulting in what some might call “old wine in a new bottle” (Robinson et al., 2004). However, later research indicates that engagement can be a distinct concept. Specifically, Newman et al. (2010), using a meta-analysis, show that engagement is closely related to a variable, or a factor, that is a combination of job satisfaction, affective commitment and job involvement. However, the low correlations (ranging from 0.39 to 0.54) indicate that engagement is not the same as job satisfaction, affective commitment and job involvement (Schaufeli, 2013). Furthermore, another

meta-analysis conducted by Christian et al. (2011) shows that, after controlling for job satisfaction, organisational commitment and job involvement, engagement predicts both in-role and extra-role performance. In other words, the explanatory power or else the contribution of engagement to in-role and extra-role performance is stronger than that of job satisfaction, organisational commitment and job involvement. Similar results are also found in Rich et al.'s (2010) study, where the contribution of engagement to in-role and extra-role performance is stronger than that of job satisfaction, job involvement and intrinsic motivation.

Taken together, recent research indicates that engagement is more strongly related to performance than the other work-related attitudes because of the element of energy that is entailed in the idea of engagement. In fact, job satisfaction and organisational commitment can be seen as positive evaluations but they do not require any action, whereas employee engagement requires the employee's active involvement (Harrison et al., 2006). In that sense, employee engagement requires activation and it is above and beyond mere satisfaction or loyalty to the employer (Erickson, 2005). Therefore, employee engagement is different from the other work-related attitudes since engagement takes the attitudes of involvement, job satisfaction and organisational commitment one step further, and encourages the employee to perform better.

Because of the different approaches to defining engagement, Shuck's (2011) systematic review was used as an organizing framework. Although all definitions hold significant value, there is the inevitable need to look at the theoretical framework they draw upon. The next section describes the theoretical frameworks of employee engagement.

2.1.2 Theoretical Frameworks of Employee Engagement

As in the definitions of employee engagement, there is no consensus regarding the theoretical framework that could surround the concept of employee engagement. Instead four different approaches have been proposed and will be discussed in the current section. The first stream derives from the needs-satisfying approach (Kahn, 1990) and the second draws from the Job Demands-Resources Model (JD-R) (Demerouti et al., 2001). Subsequently, the affective shift model (Bledow et al., 2011) and Social Exchange Theory (Blau, 1964; Gouldner, 1960) will be discussed.

The needs-satisfying approach

Kahn (1990) suggests that employees become engaged when the three psychological conditions of meaningfulness, safety and availability are met. Meaningfulness concerns the feeling of receiving a physical, cognitive or emotional reward for contributing to the overall performance of the company. In that case employees feel valuable and their work is seen as being useful and worthwhile. They feel that their efforts are being acknowledged and they find meaning in their work. Kahn (1990) found that meaningfulness leads to engagement. Meaningfulness consists of three dimensions: task characteristics, role characteristics and work interactions.

When employees feel that their work is challenging or demanding, clearly outlined, creative and contains some kind of autonomy, the levels of meaningfulness are bound to increase. Kahn (1990) focused on the job autonomy employees have to carry out their tasks and he supported his findings with the previously conducted research of Hackman and Oldham (1980). It is likely that individuals through autonomy feel the ownership of their work, they feel responsible for something great, feel like valuable members of the company and they experience greater levels of self-esteem. Therefore, challenging tasks and autonomy can influence meaningfulness in a positive way and engagement is a likely outcome.

In terms of the role characteristics that influence meaningfulness at work, Kahn (1990) identifies two types: identities and status. The former concerns

the identity each employee has within the organisation. This identity comes as a result of what people think of their co-workers or from the way people see themselves. It is possible that people do not like their identity, either because they expect better outcomes from their performance or because they overestimate their potential or, finally, because they feel their identity does not correspond to their personality or to their potential. In any case, when people do not like or do not agree with their identity, their work is less meaningful (Kahn, 1990). On the contrary, people experience a strong sense of meaningfulness when they have power, influence other members' ideas and are high in the hierarchy (Kahn, 1990) and, thus, they are likely to become more engaged. As far as the work interactions are concerned, people experience psychological meaningfulness when they have the chance to develop a relationship with their co-workers and the clients. In this way it creates a feeling of giving and receiving, of contributing, of building something important –such as human relationships (Kahn, 1990). Therefore, identity, status and positive work experiences can influence meaningfulness in a positive way and consequently engagement.

The second psychological condition related to engagement is psychological safety. Psychological safety may be the emotional or psychological support an employer or a company provides the employee with (May et al., 2004). As such it is related to the freedom employees feel in expressing themselves and their emotions without the threat of being fired, or harming their career progress (Kahn, 1990). Employees become engaged at work because they can work without fear (May et al., 2004). Safety, according to Kahn (1990), takes place when employers make clear the organisation rules and norms and specify the limits by which employees are able to move and express their thoughts, concerns, values and ideas. In that sense people feel safer, they know the boundaries and they are aware of what is expected of them. Kahn (1990) identifies a positive relationship between psychological safety and engagement. May et al. (2004) indicate that psychological safety consists of supporting interpersonal relationships, which demonstrates trust to members of an organisation. Group and intergroup dynamics influence safety by providing a good relationship between employees, leading to a healthy

environment. Managers can also promote safety by supporting their employees, respecting their values and goals, giving them autonomy and inviting them to participate in important decisions (May et al., 2004). Finally, organisational norms are important in defining what is expected or required of employees. Therefore, Kahn (1990) suggests that safety and social connectedness within the organisation are important factors in the creation of engagement.

Psychological availability is the third condition leading to engagement (Kahn, 1990). Psychological availability takes place when employees have all the physical, emotional and psychological resources at their disposal. It describes how available individuals feel for engaging themselves fully in their work and performance (Kahn, 1990). Kahn (1990) recognises four factors influencing availability. The first two factors concern the physical and emotional energy. In other words, employees must have physical and emotional energy so as to perform better and with greater enthusiasm. This will help them overcome any sign of exhaustion and fatigue. Employees are likely to engage themselves in their job roles because they know that they have the energy to do so (May et al., 2004). Availability also depends on the security or insecurity people feel within the working environment or the company itself. As Kahn (1990) mentions, insecurity causes anxiety and lack of self-confidence. Further, employees can be easily influenced by their personal lives and their performance may be poorer because of lack of concentration. Therefore, availability is related to physical and emotional energy, security and self-confidence and a balanced private life and it could be seen as the intention people have to engage or disengage (Kahn, 1990). Kahn (1990) was among the first to talk about the impact of a person's private life on engagement. This idea was extended in the JD-R model (Geurts et al., 2005). Specifically, within the JD-R model work-home interference is seen as a demand that can either lead to strain (negative) or to increased motivation to accomplish personal goals (positive) (Geurts et al., 2005).

In addition, Kahn's (1990) model is based on a qualitative interview and observational study of summer camp counsellors for adolescents and employees. May et al. (2004) were the first to operationalize Kahn's (1990)

theory. May et al. (2004) conduct their study in an insurance company located in Midwestern, USA with a resulting sample of 213 employees. Their results show that, as suggested by Kahn (1990), meaningfulness and to a smaller degree safety and availability are positively related to engagement. Also in line with Kahn (1990), May et al. (2004) demonstrate that job enrichment and role fit are positively related to meaningfulness; rewarding co-workers and supportive supervisors are positively related to safety, while personal resources are positively related to availability. Overall, May et al.'s study indicates that meaningfulness is a stronger determinant of engagement compared to safety and availability. However, the findings of May et al. (2004) are based on cross-sectional data, and as such are not well suited to assessing the existence of causal relationships between the variables.

In summary, according to Kahn (1990) engagement occurs when the three conditions of meaningfulness, safety and availability are met. Put differently, employees are likely to become engaged when their job is meaningful and challenging, their work environment is safe and personal resources are available.

The Job Demands-Resources Model

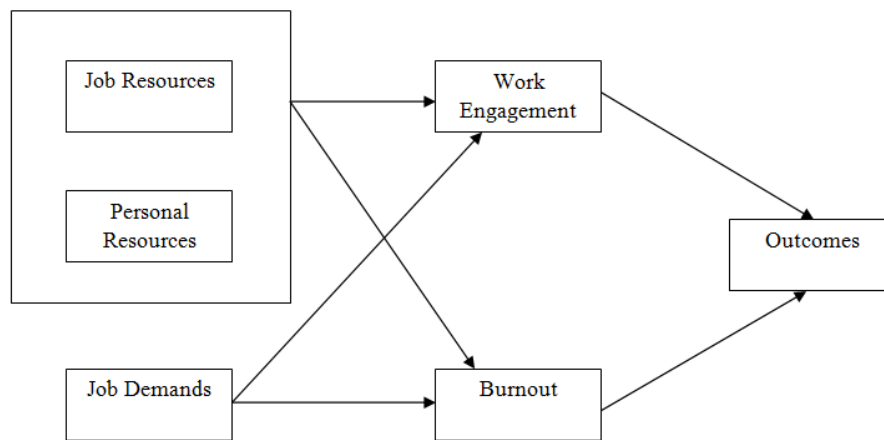
The Job Demands-Resources (JD-R) Model is suggested as the framework that explains better the model of work engagement (Halbesleben, 2010; Bakker et al., 2007; Mauno et al., 2007). The JD-R Model suggests that burnout increases when job demands are high and when job resources are limited (Demerouti et al., 2001). Job demands are associated with the psychological, social or organisational aspects of the job that involve physical or mental effort and are related to exhaustion. Demerouti et al. (2001) assert that the higher the employee's effort to deal with the job demands, the greater the exhaustion and burnout. Individuals, in order to maintain their health, mental and physical order, employ the job resources (Demerouti et al., 2001). Therefore, job resources help employees to achieve their work goals, to reduce demands and the associated costs (e.g. exhaustion) and enhance personal growth and development and can lead to work engagement

(Schaufeli et al., 2009; Mauno et al., 2007; Hakanen et al., 2006; Schaufeli and Bakker, 2004; Demerouti et al., 2001).

The academic literature distinguishes between two types of job resources: the external (organisational and social) and the internal resources (cognitive). The latter are hard to examine since they are characterised by inconsistency and instability depending on the specific job (Demerouti et al., 2001). By contrast, the organisational (external) resources concern the job control-autonomy, potential for qualification, participation in the decision making processes, performance feedback, learning opportunities, social support, supervisor support and task variety (Bakker and Demerouti, 2007; Bakker et al., 2007; Demerouti et al., 2001). The social resources are related to the support offered by the social environment, such as family, friends, supervisors and colleagues (Demerouti et al., 2001). Job resources can have either an intrinsic or an extrinsic motivational role (Bakker and Demerouti, 2008). Specifically, intrinsically motivating job resources such as autonomy, feedback, social support, decision latitude, can encourage the employee's personal growth and development whereas the work environment can motivate employees extrinsically by providing them with supportive supervisors and colleagues (Bakker and Demerouti, 2008). In sum, both external and internal job resources can lead to engagement (Schaufeli and Salanova, 2007; Schaufeli and Bakker, 2004).

Xanthopoulou et al. (2007a, b, c) expand the JD-R Model and demonstrate that, apart from the job resources, personal resources can also be predictors of work engagement. Personal resources are positive self-evaluations that are related to resiliency and the employee's feeling of their ability to exercise control over their environment (Xanthopoulou et al., 2007a; Hobfoll et al., 2003). Personal resources can be an employee's optimism, self-efficacy, resilience and self-esteem (Bakker and Demerouti, 2008). Therefore, employees are engaged in their work when both job and personal resources are high. This is called the motivational process and is represented by the upper part of Figure 2-1.

Figure 2-1
The Job Demands-Resources Model



Source: Schaufeli (2013: 26)

The JD-R Model suggests that when job resources are not sufficient, an individual is not well-equipped to deal with the job demands and he/she is likely to experience exhaustion and burnout. In that sense, the individual, in order to protect him/herself from future disappointments of not being able to achieve the desired work results, keeps motivation levels low (Demerouti et al., 2001) with engagement levels also expected to decrease. A critical point in the JD-R Model is that job resources influence work engagement better when demands are high (Bakker and Demerouti, 2008; Bakker et al., 2007). According to Conservation of Resources (COR) theory, individuals wish to protect and retain these valuable job resources and when job demands are high they will seek ways to reduce stress and the associated costs (Hobfoll, 2001). Therefore, job resources gain their importance and motivational power from the existence and experience of job demands (Hobfoll, 2002).

Job demands are seen as aspects of work that require effort on the employee's part and therefore they are associated with costs (Demerouti and Bakker, 2011). Within the JD-R Model, job demands are considered to be part of the health impairment process – which is represented by the lower part of Figure 2-1. However, recent findings suggest that the academic literature should consider job demands as falling into two categories, namely hindrance stressors and challenge stressors (Podsakoff et al., 2007; LePine et al., 2005). Job demands are not necessarily negative, but they can turn into stressors

when they require high effort from which the employee cannot easily recover (Schaufeli et al., 2009; Meijman and Mulder, 1998).

In general, according to the JD-R Model, engaged employees experience positive emotions, better health, are able to create their own job and personal resources and can transfer their engagement to others (Bakker, 2009). This absolute positivity described in the work engagement literature has been the source of the criticism the model has received. Purcell (2014) mentions that the employee profile as described by work engagement is quite rare and actually represents only a small part of the workforce, neglecting the majority of employees who do not feel engaged. Similarly, George (2011) suggests that organisations benefit from work engagement in terms of better organisational performance; the benefit for employees themselves seems to be unequal. Engaged employees do not receive back tangible benefits as a result of their engagement but only increased levels of intrinsic motivation, thus making the exchange between the employer and the employee unequal and unfair (George, 2011). However, this increased intrinsic motivation enables employees to create their own personal resources which will make them happier and more optimistic and subsequently increase their well-being (Bakker, 2009; Fisher, 2010; Xanthopoulou et al., 2009).

In addition, the JD-R Model has received the empirical support of several studies (Schaufeli et al., 2009; Bakker and Demerouti, 2007; Xanthopoulou et al., 2007; Hakanen et al., 2006; Schaufeli and Bakker, 2004; Bakker et al., 2003; Demerouti et al., 2001). It has also been tested in different countries such as Finland (Hakanen et al., 2006), the Netherlands (Bakker and Xanthopoulou, 2009; Xanthopoulou et al., 2009), Spain (Llorens et al., 2006), Austria (Korunka et al., 2009) and Greece (Xanthopoulou et al., 2012). The model has also been applied to various occupational groups such as home care professionals, teachers, blue-collar workers, flight attendants and fast-food chains (Xanthopoulou et al., 2012; 2008; Korunka et al., 2009). However, the JD-R Model does not identify in practical terms how organisations should perform when the specific demands and resources are at risk, which somewhat limits the immediate applicability to the work context

(Demerouti and Bakker, 2011). Hence, the Model has been tested and validated in various contexts and occupational groups but the results it provides should be made more explicit for practitioners to use so as to address the needs of modern organisations. Also, the JD-R Model includes only some of the predictors of engagement that have been identified in previous literature including job demands, job resources and personal resources. Some have argued that this means that the JD-R Model offers a limited approach to engagement (Crawford et al., 2010). The nature of this critique leaves open the prospect of addressing this issue through the broadening of the JD-R Model to include other predictors of engagement. This could be achieved by supplementing the JD-R Model with a stronger theoretical framework, such as social exchange theory, so as to widen its contribution towards the creation of work engagement. This is a direction undertaken in the thesis through the use of Social Exchange Theory to motivate the broadening of the JD-R Model to include promotive psychological ownership, as a combination of job and personal resources, which is an antecedent of work engagement.

The affective shift model

The affective shift model suggests that work engagement emerges as a result of the interplay of positive and negative affect (Bledow et al., 2011). This model suggests that an individual will become engaged when there is a shift from negative to positive affect. Specifically, negative experiences or mood in the beginning of the day are positively related to work engagement in the afternoon if positive mood is experienced (Bledow et al., 2011). Negative experiences or affect can also motivate an employee to take action and as such negative affect has a motivational role in this process. Furthermore, an individual will become engaged when an increase in positive affect is accompanied by a decrease in negative affect (Schaufeli, 2012). However, this model is only tested once by Bledow et al. (2011) who collected data twice a day over 9 working days from 55 software developers and so more theorization would be useful. Future research can explore the importance of this model in more detail when studying employee engagement. The affective shift model could also be usefully supplemented with the JD-R Model. In particular, negative experiences might be conceptualized as challenge

demands that serve to motivate the employee to work harder and stay engaged.

Social Exchange Theory (SET)

Social exchange has provided the theoretical underpinning of organisational research and work attitudes (Coyle-Shapiro and Conway, 2004; Cole et al., 2002; Randall et al., 1999; Cropanzano et al., 1997; Wayne et al., 1997; Settoon et al., 1996). Blau (1964: 91-92) describes social exchange as “the voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others”. In other words, the exchange signifies the expectation that when an individual does a favour, this favour will be returned in the future (Aryee et al., 2002). In addition, social exchange theory illustrates the relationship between two different parties that strive to maintain or even maximise the derived benefits from that relationship (Lawler et al., 2008; 2000). Therefore, social exchange is based on reciprocity, the exchange of benefits or resources and the relationships deriving from the exchange, which are going to be discussed next.

Social Exchange Theory draws from the principles of psychology, microeconomics and sociology (Emerson, 1976). Blau (1964) was among the first to distinguish between social and economic exchange. According to Blau (1964), economic exchange entails an expectation of some future return or transaction which is a priori specified; the future return associated with social exchange is unspecified and more subjective (Lavelle et al., 2007; Konovsky and Pugh, 1994). Thus, in social exchange, the way an individual will reciprocate is not certain nor based on specific criteria.

The norm of reciprocity is central in social exchange. Gouldner (1960) suggests that because of the unspecified nature of the social exchanges, individuals have to conform to the rule of reciprocity in moral terms in the sense that individuals will have to reciprocate because they feel a moral obligation. Gouldner (1960) points out that individuals will seek to satisfy the delivery of their future obligations due to the social and moral norms entailed in the exchange relationship. However, this morality is sensitive to an individual's characteristics and culture and thus, may generate different

interpretations, as also suggested earlier by Blau (1964) (Cropanzano and Mitchell, 2005). Social Exchange Theory is based on individual evaluations of the exchange content flowing between parties and it is therefore subjective. This suggests that models investigating social exchange-based hypotheses need to explicitly address the perceptions of employees, rather than only the objective content of exchange.

Furthermore, it is acknowledged that the norm of reciprocity represents the mutual dependence between the parties (Uehara, 1995). This dependence involves the idea that people seek to satisfy their ego, or else their personal needs and the primary factor of these social transactions is the personal gain deriving from them; while they entail the expression of felt emotions deriving from those exchanges such as satisfaction from the social exchange (Lawler and Thye, 1999; Uehara, 1995). Despite the non-altruistic notion of reciprocity, social exchange does take place and provides outcomes that are mutually beneficial for both parties involved in the exchange relationship. Therefore, the idea of reciprocity is able to equally serve the self-driven interests as well as the moral nature of repaying (Gouldner, 1960).

Nevertheless, there is no general rule for the level of reciprocity which would bind the two parties to reciprocate in equal ways. As Eisenberger et al. (1987) suggest, there is no certainty regarding the extent to which individuals will reciprocate as it depends on their personality. The reason the exchange relationship continues to flourish is because usually individuals invest in the exchange relationship and they reciprocate with even greater outcomes than the benefits or the resources they previously received (Gouldner, 1960). Hence, within the exchange relationship individuals invest in future exchanges and believe in the value of the resources they will receive after they have reciprocated.

Drawing from Blau (1964), within an organisational setting, in order to initiate the exchange the organisation has to provide benefits or resources that are valuable to the employees (Molm, 2003; Cole et al., 2002). The benefits exchanged include both impersonal resources such as financial resources, services and information and socio-emotional resources such as approval and

respect, which are less tangible (Eisenberger et al., 2001; Altman and Taylor, 1973). These impersonal and socio-emotional resources indicate that the organisation cares about their employees' well-being (Epitropaki and Martin, 2005; Eisenberger et al., 1990; 1986). In return, the employees are expected to reciprocate with attitudes and behaviours that are of value to the organisation. Therefore, the resources exchanged need to be valuable to the employees so as to enable reciprocity (Lawler, 2001; Emerson, 1976; Ekeh, 1974; Blau, 1964).

The resources provided by the organisation entail an obligation on the part of the employees to reciprocate with more positive personal attitudes and positive behaviors to those that commenced the exchange, or else the organisation (Cropanzano and Mitchell, 2005; Aryee et al., 2002; Eisenberger et al., 2001; McNeely and Meglino, 1994; Haas and Deseran, 1981; Etzioni, 1961). In other words, the reciprocal nature of these exchanges is predictive of positive work attitudes (Wayne et al., 1997; Keller and Dansereau, 1995; Seers et al., 1995; Mowday et al., 1982). Previous research suggests that employees can reciprocate their organisation by demonstrating higher levels of engagement, satisfaction, commitment, liking, trust and low turnover intention (Saks, 2006; Cropanzano and Mitchell, 2005; Cole et al., 2002; Settoon et al., 1996; Seers et al., 1995; Eisenberger et al., 1986).

The felt obligation from the employees to reciprocate to the organisation is enhanced by the social exchange relationships which are likely to motivate employees to identify themselves with the organisation and adopt behaviors that are beneficial to the organisation (Rupp and Cropanzano, 2002; Rhoades et al., 2001; Van Dyne et al., 1994). Reciprocity not only ensures repaying, it also creates a stronger and more solid relationship between the transacting parts (Cropanzano and Mitchell, 2005). In that sense, individuals may seek to reciprocate so as to enhance the receipt of future benefits and, hence, maintain the exchange relationship. Therefore, the exchanged favours or benefits signal the appearance of mutual support and maintenance of long-term relationships among the organisational members (Cropanzano and Mitchell, 2005; Aryee et al., 2002).

The emergence of employee engagement can be explained within Social Exchange Theory (SET) (Saks, 2006). Cropanzano and Mitchell (2005) argue that the basic idea of SET is that when employees receive economic and socio-emotional incentives from their company, they feel obliged to pay the organisation back by showing loyalty, trust, commitment to the business goals and objectives; consequently, they become more engaged. SET is based on the exchange relationship between the management and the employees. SET involves the norm of reciprocity which leads to creating some kind of felt obligation to the contributing parties (Cropanzano and Mitchell, 2005). SET suggests that social exchange relationships consist of employers taking care of employees, which subsequently leads to positive outcomes (Cropanzano and Mitchell, 2005; Blau, 1964; Gouldner, 1960). Employees who receive care and have a strong relationship with their employer are likely to develop positive attitudes and behaviours such as engagement.

Employees are expected to pay the organisation back by showing greater levels of engagement and commitment to the company (Saks, 2006). When employees have high levels of cognitive, emotional and physical resources they usually choose to respond by becoming more engaged in their job and in the company's goals and vision (Saks, 2006). SET illustrates that the notion of exchange is not only focused on material goods but on emotional resources as well (Cropanzano and Mitchell, 2005). In order to become engaged, employees need not only tangible incentives such as pay but also socio-emotional benefits such as approval and caring (Rousseau and Parks, 1993). Muse et al. (2008)'s research indicates that the exchange mentioned above is positively related to employees' feelings of perceived organisational support, organisational commitment and their job performance. Therefore, organisational commitment is a valuable resource or benefit for the employees, the acceptance of which can generate higher engagement.

In addition, SET concerns the expectations managers and employees have of each other. Specifically, if managers meet the employees' expectations, employees will respond with higher levels of work engagement. The relationship between employee engagement and psychological contract has been also addressed in the academic literature. Specifically, the psychological

contract refers to expectations that the employer and the employees have of each other as a form of return of this relationship (Rousseau, 2003). In that sense the psychological contract seems to be close to the psychological support offered by the company to its employees. Perceived psychological support is seen as one of the antecedents or the factors that create an engaged workforce (Saks, 2006). In addition, Parzefall and Hakanen (2008) support the mediating role of work engagement in the relationship between perceived contract fulfilment and affective commitment, reduced turnover intentions and mental health. Bal et al. (2013) also confirm that psychological contract fulfilment is associated with higher work engagement and lower turnover intentions. Alfes et al. (2013) also make use of a social exchange perspective to show that engagement and citizenship behaviour and engagement and turnover intention are moderated by perceived organisational support and the relationship with the supervisor. Therefore, supportive organisations and managers that fulfil their employees' expectations are more likely to have an engaged workforce that expresses more citizenship behaviour and lower intention to quit.

To conclude, various theoretical approaches have been presented and discussed in the literature to explain the underlying mechanisms that are entailed in employee engagement. Each theoretical perspective emphasizes a different aspect of engagement and, therefore, they cannot be integrated in one single model.

The next section will describe and critically evaluate the operational definitions of employee engagement identified in this review of the engagement literature.

2.1.3 Measures of Employee Engagement

As discussed in the previous section, Shuck's (2011) systematic review is a useful framework when examining the literature on employee engagement. For the purpose of the current section on the different operational definitions which have been introduced for measuring employee engagement, the same framework will be used and discussed. Specifically, the four main approaches to defining engagement will also be used here so as to discuss the measures of engagement: the Needs-Satisfying Approach, the Burnout-Antithesis Approach, the Satisfaction-Engagement Approach and the Multidimensional Approach. Table 2-2 summarizes the scales under each approach. Each is considered in turn.

Measures from the Needs-Satisfying Approach

Measures under the Needs-Satisfying approach draw from Kahn's (1990) work. Specifically, three measures of engagement have been developed using Kahn's (1990) theoretical propositions: the May et al. (2004) psychological engagement measure, the Rich et al. (2010) job engagement measure and the Soane et al. (2012) Intellectual Social Affective (ISA) engagement measure.

May et al. (2004) operationalized Kahn's (1990) conceptualization of engagement. The scale which consists of 13 items was validated by using 213 employees from a US insurance company. The scale uses the same categorization of engagement suggested by Kahn (1990): emotional engagement, cognitive engagement and physical engagement. Respondents provide answers in those 13 items on a five-point Likert scale. Only four studies (Dalal et al., 2012; Chen et al., 2011; Shuck et al., 2011; Olivier and Rothman, 2007) have been identified that make use of this scale with results showing that meaningfulness has the strongest relationship with engagement followed by availability and then safety.

Table 2-2
Measures of Employee Engagement

<i>Approach</i>	<i>Scale</i>	<i>Dimensions</i>	<i>Sample</i>	<i>Total Number of Items</i>	<i>α</i>
Need-Satisfying	May et al. (2004)	Cognitive Emotional Physical	213 respondents from a large insurance firm located in Midwestern, USA	13	0.77
Need-Satisfying	Rich et al. (2010) – Job Engagement	Cognitive Emotional Physical	245 firefighters, USA	18	0.95
Need-Satisfying	Soane et al. (2012) - ISA	Intellectual Social Affective	Study 1: 278 employees, manufacturing firm, UK Study 2: 683 employees, retail organisation, UK	9	0.91
Burnout-Antithesis	Maslach et al. (1996) - MBI	Emotional exhaustion Cynicism Professional inefficacy	Two studies, study 1: graduate students, study 2: teachers	9	Emotional exhaustion (0.82-0.90), Cynicism (0.60-0.79), Professional inefficacy (0.71-0.80)
Burnout-Antithesis	Schaufeli et al. (2002) - UWES	Vigor Dedication Absorption	314 Spanish university students & 619 Spanish employees from private and public companies	17	Typically range between 0.80 to 0.90
Satisfaction-Engagement	Harter et al. (2002)	-	The Gallup database contains 42 studies conducted in 36 independent companies	12	0.91
Multidimensional	Saks (2006)	Job Engagement Organisation Engagement	102 employees working in a variety of jobs and organizations, Toronto, Canada	11	Job Engagement (0.82), Organisation Engagement (0.90)

Viljevac et al. (2012) examine in comparative terms May et al.'s (2004) scale and the UWES introduced by Schaufeli et al. (2002), as Sonnentag (2011) had suggested earlier. Specifically, they are concerned about the poor variety of engagement scales and wish to illustrate the statistical validity of the two most widely used scales that appear in the employee engagement literature. Viljevac et al. (2012) identify some points of contact and tension between the two empirical works. In particular, they show that each scale consists of three dimensions, which might seem different at first glance though a more

thorough analysis reveals their commonality. To begin with, as discussed earlier in this thesis, Schaufeli et al. (2002) conceptualize engagement as a three-dimensional construct which consists of vigor, dedication and absorption. By contrast, May et al. (2004) consider the physical, emotional and cognitive dimensions of employee engagement. Therefore, the conceptualisation of work engagement by Schaufeli et al. (2002) is quite similar to the way May et al. (2004) conceptualised engagement a couple of years later.

Viljevac et al. (2012) claim that both the vigor and the physical dimensions describe the energy and the degree of investment employees dedicate to their work, whereas both the dedication and emotional aspects concern the excitement and enthusiasm within their psychological state. Last, the absorption and the cognitive items are related to the fact that employees lose track of time while at work (Viljevac et al., 2012). The similarity between the operationalizations of the two models is further illustrated in Table 2-3.

Table 2-3
A Comparison between May et al.'s (2004) and Schaufeli et al.'s (2002) Scales

<i>May et al. (2004)</i>	<i>Schaufeli et al. (2002)</i>
Physical Engagement: "I exert a lot of energy performing my job"	Vigor: "At my job, I feel that I 'm bursting with energy"
Emotional Engagement: "I really put my heart into this job"	Dedication: "I am enthusiastic about my job"
Cognitive Engagement: "Performing my job is absorbing that I forget about anything else"	Absorption: "When I am working, I forget anything else around me"

Source: Schaufeli (2013: 21)

Viljevac et al. (2012)'s study also demonstrates that the UWES Scale operates slightly better than the scale of May et al. (2004). Additionally, the authors also wish to illustrate empirically the distinctiveness of employee engagement to other work-related constructs such as job involvement, organisational commitment, job satisfaction and intention to stay in the organisation. The results did not indicate discriminant validity for job

satisfaction. Viljevac et al. (2012) suggest that more attention is needed when considering engagement as a multidimensional construct.

Rich et al. (2010), also drawing from Kahn (1990)'s theoretical framework, make use of already existing scales to develop their measure of engagement. They identify diverse measurement scales for each type of investment (cognitive, affective, physical) and present a model which shares a common conceptualisation of engagement with Schaufeli et al. (2002)'s work engagement model. They examine physical engagement with Brown and Leigh (1996)'s measure of work intensity while the affective state of engagement is assessed by Russell and Barrett's (1999) study on core affect. Further, they employ Rothbard (2001)'s scale of engagement so as to measure cognitive engagement. Thus, Rich et al. (2010) measure engagement based on other pre-existing scales which may imply that either engagement in the past was measured under different labels or that engagement is not such a new concept. In total, the scale consists of 18 items which is validated in a sample of 245 firefighters in the United States and responses are given in a five-point Likert scale. The items are categorized under emotional engagement, cognitive engagement and physical engagement.

Rich et al. (2010)'s study indicates that engagement moderates the relationship between value congruence, perceived organisational support, core self-evaluations and task performance. Engagement also mediates the relationship between value congruence, perceived organisational support, core self-evaluations and organisational citizenship behaviour (Rich et al., 2010). Rich et al. (2010) observe that the current literature fails to describe the way employee engagement links employees' attitudes and organisational aspects to employee job performance. Specifically, they examine the way employees' cognitive, affective and physical energies lead to task performance and organisational citizenship behaviour. Rich et al. (2010) encourage future research to focus on the way employee engagement impacts on job performance. In 2013, this scale was employed in Alfes et al.'s study conducted in the United Kingdom. Both studies identify a strong explanatory power of engagement in outcomes such as task performance, intention to quit and organisational citizenship behaviours (Alfes et al., 2013).

Additionally, Soane et al. (2012) introduce a new job engagement model –the ISA Engagement Scale. Soane et al. (2012)’s study draws from the literature of positive organisational life. The ISA Engagement Scale is built on Kahn’s (1990) conceptualization while also considering the wider and recent developments in the employee engagement literature. From an initial set of 21 items, the scale is shortened to nine items and is validated in a sample of 683 employees from a UK retail organisation. Soane et al.’s (2012) study also shows that the ISA presents a higher explanatory power compared to the UWES in relation to predicting individual-level behavioural outcomes.

Soane et al. (2012) suggest that there are three conditions under which engagement can be experienced: a focused work role, activation and positive affect. The first condition, focused work role, is associated with the sense of having a clearly defined role which will make employees appreciate their duties and strive towards their fulfillment and accomplishment. The second condition, activation, is the degree of activity related to a number of responses such as enthusiasm and intellectual investment in the tasks. The third condition, positive affect, refers to the positive activation towards a target. In terms of engagement, employees who are actively pursuing their work roles become more engaged in their job.

The three conditions i.e. focused work role, activation and positive affect form the basis for how engagement is perceived. Soane et al. (2012) further suggest that engagement is a three-facet construct. To be more specific, the authors provide the literature with the conceptual definitions of the three dimensions of intellectual, social and affective engagement. Intellectual engagement is the degree to which an employee is “intellectually absorbed in work”, whereas affective engagement is the extent to which an employee is positively affected towards his/her work role (Soane et al., 2012:532). Soane et al. (2012) recognise that intellectual engagement is similar to what Schaufeli et al. (2006) define as absorption and affective engagement is similar to vigor. Social engagement, the third dimension of engagement, refers to the socialisation taking place inside an organisation and the extent to which organisational members share common values and goals. The last

dimension of social engagement is something that has not been considered before.

In general, the measures under this approach include both an emotional and a cognitive dimension. May et al. (2004) and Rich et al. (2010) also share the third dimension of physical engagement which is related to the exertion of effort. However, this third dimension is deliberately excluded from the ISA model by Soane et al. (2012) because those authors argue that physical engagement is more like a behaviour than a psychological state. Soane et al. (2012), drawing from Kahn (1990), highlight the importance of the perceived social connectedness between the employee and their co-workers which entails a mutual sharing of attitudes, goals and values. The importance of this social dimension of engagement is worthy of exploration in future studies.

Measures from the Burnout-Antithesis Approach

Measures under the Burnout-Antithesis approach draw from the burnout literature. Maslach et al. (2001) focus on the construct of burnout and measure its three dimensions (exhaustion, cynicism and professional inefficacy) by the Maslach-Burnout Inventory (MBI). Shirom (1989) suggests that the main factor leading to burnout is exhaustion and other factors are only complementary. Thus, exhaustion seems to be the most analysed dimension of the three (Shirom, 1989). Exhaustion is directly related to stress at work and it is responsible for creating an emotional and cognitive distance between the employee and his/her work (Maslach et al., 2001). Cynicism is the next stage or reaction to exhaustion (Maslach et al., 2001). When the emotional demands are exhausting, employees tend to distance themselves from their work and have a cynical attitude towards their work as a way to better manage those demands. Thus, exhaustion makes individuals become discouraged and less willing to get involved in their tasks (Maslach et al., 2001). The authors describe professional inefficacy as a more complex situation. It is the state taking place after exhaustion and cynicism. Exhausted employees with a cynical attitude are not likely to expect any good outcomes from their work, thus they are not motivated to work hard (Maslach et al.,

2001). Consequently, the professional efficacy is negatively influenced by exhaustion and cynicism (Langelaan et al., 2006).

Maslach et al. (2001) also state that burnout is negatively related to workload, the feeling of having control in the job, to recognition and rewards for hard work, to a supportive work environment, to organisational justice and to meaningful tasks. Engagement, as explained earlier, is the antipode of burnout and consists of energy, involvement and efficacy which are the opposites of the burnout dimensions (Maslach and Leiter, 1997). Thus, engagement is expected to be positively related to workload, feeling of control, recognition and rewards, supportive work environment, organisational justice and meaningful tasks.

In addition, Schaufeli et al. (2002) introduce the Utrecht Work Engagement Scale (UWES) to measure work engagement. This scale has been used extensively (Xanthopoulou et al., 2009; Hallberg et al. 2007; Mauno et al., 2007; Hakanen et al., 2006; Koyuncu et al., 2006; Schaufeli et al., 2006; Hakanen et al., 2005; Montgomery et al., 2003) and is one of the most well-established models of employee engagement in the academic literature. The scale comes in a 17-item questionnaire and also in a shortened 9-item questionnaire. Items are categorized under feelings of vigor, dedication and absorption. The UWES scale has been used in a variety of contexts and has been found to drive individual performance and well-being outcomes (Halbesleben, 2010).

Schaufeli et al. (2002) offer the UWES scale because they believe that work engagement should be measured as a separate, independent construct from burnout. They argue that the MBI cannot be a sufficient measure of engagement because engagement and burnout are not exact opposites of each other (Schaufeli et al., 2002). However, research on burnout and work engagement has shown that the core dimensions of burnout (exhaustion and cynicism) and engagement (vigor and dedication) are opposites (Gonzalez-Roma et al., 2006). Similarly, Cole et al. (2012) in their meta-analysis find that engagement and burnout are strongly negatively related. They also suggest that engagement and burnout show the same pattern of correlation

with antecedents and outcomes which could signify that work engagement and burnout are not independent variables (Cole et al., 2012). Opposite findings show that engagement and burnout are independent variables correlating negatively with each other (Schaufeli et al., 2002; Russell and Carroll, 1999). Also, a meta-analysis conducted by Halbesleben (2010) shows that correlations between work engagement and burnout range from -.24 to -.65 showing that the two variables cannot be the exact opposites of each other, where the correlation would be expected to be much closer to -1.0.

In addition, it is acknowledged that burnout and engagement are not opposite poles since high levels of engagement may lead to exhaustion (Schaufeli et al., 2002). Thus, the feeling of burnout does not signify lack of engagement and vice versa (Schaufeli and Salanova, 2011). Even from a psychological perspective, it is not feasible to claim that there is a perfectly inverse relationship between burnout and work engagement (Schaufeli and Salanova, 2011). Therefore, not feeling burned-out does not necessarily mean that one feels engaged, and not feeling engaged does not necessarily mean that one is burned-out.

Criticism of this scale stems from the UWES (Schaufeli et al., 2002) consisting of only positively framed items. It is suggested that this scale represents an absolute positivity, which is influenced by positive psychology and tends to force the employees to present a positive view of their work (Purcell, 2014). In that sense, work engagement may not reveal the negative side that exists in organisations. However, Bakker et al. (2011) suggest that positive items on their own can be effective to assess the extent to which employees feel vigorous, dedicated and absorbed in their job. Therefore, the UWES, offering as it does only positively framed items, is able to focus on the single construct of work engagement and indicate that a low score means no engagement but not necessarily high burnout.

The UWES has received further criticism in terms of its factor structure and validity, and these concerns are worthy of some consideration. Although the scale has been used and validated in numerous countries and industries, there

remains some debate regarding the factor structure and even if there are indeed three dimensions that correspond to vigor, dedication and absorption. Specifically, Viljevac et al. (2012) indicate that although the three-factor model gave a better fit when compared with the one and two-factor models, it showed a significant χ^2 , high RMSEA and low CFI and TLI. Likewise, Mills et al. (2012: 526) find a tolerable three-factor model ($\chi^2/\text{df} = 4.49$, RMSEA = .09, CFI = .88). Moreover, the validity of the UWES as a measure is debated. Newman and Harrison (2008) mention that there is a conceptual overlap between the dimension of dedication and other established constructs such as job satisfaction and organisational commitment. However, Rayton and Yalabik (2014) find both convergent and discriminant validity and a good fit of the three-factor model in a two-wave study. Also, Yalabik et al. (2013) show discriminant validity of work engagement, job satisfaction and affective commitment in a two-wave study. Both of these studies are comprised of only two survey waves, and both are based on data from UK financial services settings. Further work is warranted to establish the generality of these findings.

To conclude, there remains some scepticism regarding the UWES measure of engagement. However, the UWES scale is one of the most widely-used models of employee engagement and remains a credible choice for use in studies of employee engagement.

Measures from the Satisfaction-Engagement Approach

The most representative measure of employee engagement in this approach is the Gallup Q12. The scale consists of 12 items that aim to assess “the individual’s involvement, satisfaction and enthusiasm for work” (Harter et al., 2002). Harter et al. (2002) conduct meta-analysis by using Gallup’s data set consisting of 7,939 employees from a range of industries. The respondents provide answers on a five-point Likert scale. Harter et al.’s (2002) study was one of the first to mention a profit linkage to employee engagement. Results show that employee engagement is positively related to a number of outcomes such as customer satisfaction, turnover, productivity and profitability (Harter et al., 2002).

Although Harter et al.’s (2002) is one of the most widely cited pieces of literature on employee engagement it has also received some criticism. Specifically, it is suggested that the Gallup Q12, rather than measuring engagement, assesses the extent to which some positive and motivating conditions are present (Little and Little, 2006), as discussed earlier in section (2.1.1); therefore, caution is needed when designing or selecting measures, while boundaries between antecedents, engagement and outcomes also need to be defined.

Measures from the Multidimensional Approach

The Multidimensional approach is drawn from Saks (2006). Saks (2006) expands the measurement of engagement at both job and organisational level. Saks’s (2006) definition of engagement resembles that of Kahn’s (1990) because they both focus on role performance at work. It could also be claimed that the distinction between job and organisational engagement reflects two of the dimensions introduced by the work engagement model. Specifically, job engagement reflects the absorption dimension of work engagement and organisation engagement reflects the dedication dimension of work engagement. Saks (2006) presents two different scales, one for job engagement and one for organisational engagement, where each consists of 6 items. The two scales are validated by 102 employees working in a variety of

jobs and organisations mainly in Canada. Answers are provided on a five-point Likert scale.

The results of Saks (2006)'s study indicate that both job and organisation engagement positively predict job satisfaction, organisational commitment and negatively employees' intention to quit. In Saks' study, organisational support and procedural justice are seen as antecedents of organisation engagement, whereas job characteristics and organisational support are viewed as the antecedents of job engagement (Saks, 2006). Even if Saks (2006) attempts to measure engagement on two different levels, these overlap conceptually with the dimensions of the work engagement model; if job or organisation engagement is measured, the focus is still on the individual. The multidimensional approach in studying engagement has been rarely adopted in the academic literature (only seven studies as shown earlier).

This subsection has given an overview of the current operational definitions of employee engagement. None of these definitions is clearly superior on all criteria. Notably, Kahn (1990) focuses on the work role, while Schaufeli et al. (2002) focus on the employees' work activity, or the work itself. This means that decisions about the way engagement should be defined and measured will depend on the specific context of the research undertaken. The next subsection delineates four key features of the context relevant to this research and reflects on their importance for the selection of a measure of employee engagement.

2.1.3.1 Critical Reflection

There are four key features of the context of the current research that will require careful consideration in the design of the research. First, work engagement is a key focus in the development of the JD-R Model. The JD-R Model explains how work engagement is created and as such it focuses on the antecedents of engagement. This narrow focus of work engagement may be seen as a weakness because it does not include its associated consequential behaviours which are thought to be particularly important. However, by defining engagement more broadly there is a risk of confusing engagement with its behavioural outcomes such as extra-role performance (Schaufeli, 2013). Therefore, other measures of engagement that focus on the behavioural outcomes of the construct would be more suitable for studies - unlike here- where the linkages of engagement and its outcomes are explored.

Second, and linked to the first point, this thesis is concerned with the way engagement is created. Specifically, the primary research question is the relationship between employee psychological ownership and engagement. As will be explained in the next section (section 2.2), employee psychological ownership is conceptualized as a positive resource (Avey et al., 2009) which can lead to greater outcomes such as engagement. Furthermore, its dimensions are seen as job and personal resources that will create work engagement. Therefore, the JD-R Model is well-suited to explaining the relationship between employee psychological ownership and engagement and, thus, it makes sense to use the model of work engagement in this thesis.

Third, because the central argument of this thesis is proposing a new attitude linked to engagement, it is essential that the thesis deploys a widely accepted measure of engagement. This protects the findings of the thesis from critiques suggesting that any results in the thesis were artefacts of a strategic selection of the measure of engagement. To address this issue, identification, collection and analysis of relevant peer-reviewed articles in the engagement literature took place. A set of keywords (i.e. work engagement, job engagement, employee engagement) was used during the literature search, which was conducted in online journal databases, including EBSCO Business Source

Complete, Web of Science and Emerald. The search was restricted to academic peer-review studies that were written in the English language. Specifically, for papers that made use of the UWES scale, only those which measured all three dimensions of vigor, dedication and absorption were included. Progressively, some combinations of these search terms duplicated results that had appeared in previous searches. This increased the author's confidence that the literature had been comprehensively captured. The result of this method was a population of 281 studies on engagement. Further classification of the articles took place in terms of their epistemological orientation. Thus, these 281 items comprise of four meta-analyses, 50 conceptual papers and 227 empirical pieces. Of these 227 items, 190 use the definition and model of work engagement.

Fourth, the UWES has previously been tested and validated in the national context of Greece (Xanthopoulou et al., 2012a; 2012b; 2007c). Specifically, Xanthopoulou et al. (2012b: 47) show that the three-factor structure of the UWES, as measured in Greece, fitted the data well. Xanthopoulou et al. (2012b) make comparisons among the Greek and the Dutch context with regard to work engagement because these two contexts have many different characteristics, although they are both in the European context. Their study indicates that Greek and Dutch employees confirm the three-factor structure of engagement and respond to the items of the scale in a similar way. Xanthopoulou et al. (2012b) conclude that the UWES is an effective scale for measuring engagement in Greece and is expected to provide results similar to other European countries. The UWES is the only scale of engagement that has been previously tested in the Greek context. As such the UWES scale provides confidence that the translated scale will perform as expected in Greece, as well as a unique opportunity for benchmarking results with other studies as needed.

Despite the shortcomings of the work engagement model that were acknowledged earlier, its operational definition, the UWES, is widely used and has been validated across different industry sectors and countries (Sonnentag, 2011; Xanthopoulou et al., 2009; Salanova and Schaufeli, 2008; Sonnentag, 2003). These reasons, discussed above, indicate that the model of

work engagement and the UWES scale are appropriate to analyse attitudes linked to engagement in the Greek context.

The next section will present the definition and the theoretical background of employee psychological ownership. At a second level, the dimensions of psychological ownership are explained and their links to work engagement are discussed. Last, a critical reflection of the measurement of the construct is offered.

2.2 Definition and Theoretical Background of Employee Psychological Ownership

Employee psychological ownership concerns the feeling of responsibility by the employees to make decisions which are in favour of the organisation (Avey et al., 2012; 2009, O'Reilly, 2002; Parker et al., 1997). The concept of employee psychological ownership draws from Social Exchange Theory (SET) (Avey et al., 2009), as discussed earlier for the construct of employee engagement. Specifically, employees who feel psychological ownership towards their organisation, feel responsible to reciprocate the organisation with outcomes that the organisation values (Rupp and Cropanzano, 2002; Rhoades et al., 2001). This felt responsibility, entailed in the concept of psychological ownership, is one of the core elements of social exchange relationships, or as described in SET, when employees receive something they value, they have to respond with positive outcomes (Gouldner, 1960). Hence, employees who feel they own their organisation in psychological terms feel the responsibility to make decisions that will be beneficial to the organisation and reciprocate with more positive attitudes.

Pierce et al. (1991: 6) define psychological ownership as a “bundle of rights”. In other words, employees experience psychological ownership when they are provided with the possibility or the right to receive information about the target of ownership and the right to voice their ideas over decisions related to the target (Pierce et al., 1991). In that sense, employees experience psychological ownership when they have the right to express their opinion over their job or their organisation (Pierce et al, 1991). According to social exchange theory, it could be claimed that these rights offered to the employees by the organisation make the employees more willing to reciprocate to the organisation with higher levels of work engagement (Cropanzano and Mitchell, 2005).

Parker et al. (1997) make use of the term responsibility in order to describe the construct of psychological ownership. Specifically, employees feeling ownership towards their organisation have at the same time a strong feeling of responsibility to fulfil their job tasks and be productive for the company (Parker et al., 1997). Therefore, employees who demonstrate high levels of

psychological ownership are also highly concerned about their organisation and the services they offer. Likewise, O'Reilly (2002) also mentions that psychological ownership creates in employees a feeling of responsibility to make decisions on important issues that will have an impact on the organisation they work for. In agreement with the above, Wang et al. (2006) suggest that "enhancing responsibility" and "increasing value" are two concepts closely related to psychological ownership. However, Pierce et al. (2001) postulate that psychological ownership and felt responsibility are two distinct constructs and in fact, responsibility is the outcome of psychological ownership and not the route leading to it. Therefore, even if employee psychological ownership is defined in terms of the responsibility the employees may feel, psychological ownership is distinct and wider than responsibility.

At the same time, psychological ownership is a cognitive-affective state in which employees feel as if their job or the organisation they work for is theirs and concerns their "awareness, thoughts and beliefs" towards either the job or the organisation (Pierce et al., 2003:86; O'Reilly, 2002). Employee psychological ownership makes employees think of their organisation as if it is theirs ('It is MINE'), (Pierce et al., 2003; 2001: 299). In that sense psychological ownership is a state that makes employees believe that the "target of ownership" is theirs and they develop a feeling of awareness as far as this target is concerned (Pierce et al, 2003, p. 86). This target may represent the organisation which forms the personality of individuals and through psychological ownership they are able to identify themselves inside the organisation (Brown et al., 2005). However, this ownership does not take place in materialistic terms (Pierce et al., 2001). Instead, employees are concerned and care about their organisation in psychological terms, or as if they were the real owners.

Employee psychological ownership is a complex human state that exists inherently in human psychology; it consists of both cognitive and affective elements and it reflects the feeling of responsibility towards the work or the organisation (Pierce et al., 2009; Pierce et al., 2001). Affectively, psychological ownership creates happy and pleasant employees while

cognitively, psychological ownership impacts on employees' ideas and beliefs (Pierce et al., 2009). Also, psychological ownership will induce the feeling of responsibility to take care in their work or organisation and will generate more positive attitudes. Therefore, employees who feel they own their organisation in psychological terms, are happy, care about the organisation and have a strong feeling of responsibility which motivates them to develop more positive attitudes such as work engagement.

Further, employee psychological ownership promotes the employees' well-being (Avey et al., 2012); the same positive relationship between engagement and well-being has been suggested (Fisher, 2010). However, employee psychological ownership and work engagement are not synonymous. Employee psychological ownership asks the question "How much do I feel this organisation is mine?" Likewise, engagement as described by Saks (2006) asks "How willing am I to go the extra mile for my organisation?". Therefore, employee psychological ownership is related to the psychological possession which will make employees invest more in their work and will make them more energetic towards the pursuit of their work goals. Put differently, the feeling of psychological possession towards the work or the organisation will create more engaged employees.

The factor distinguishing employee psychological ownership with other organisation and job-related constructs is the notion of possession (Avey et al., 2009; Pierce et al., 2004; Pierce et al., 2001). However, the literature suggests that psychological ownership is a construct distinct from that of possessiveness (Pierce et al., 2003; Pierce et al., 2001). This distinctiveness is also supported empirically by Pierce et al. (1992) and Van Dyne and Pierce (2004). Psychological ownership is grounded on the psychology of possession but the two constructs are not synonymous (Pierce et al., 2004; Furby, 1978). Employee psychological ownership draws from possession but psychological ownership is more than mere possession. Employee psychological ownership is an attitude that makes employees think as if they own their organisation and as such they feel responsible for it.

Pierce et al. (2001) build the suggestion about the distinctiveness of employee psychological ownership with other work-related constructs on Etzioni (1991)'s theory of possession, which was developed further by Furby (1991; 1980; 1978). Although Etzioni (1991) and Furby (1980; 1978) base their research on the possession of materialistic objects, Pierce et al. (2001) claim that the theory of possession can serve as a foundation for psychological possession, entailed in the construct of employee psychological ownership. In other words, Pierce et al. (2001) suggest that possession takes place both in psychological (employee psychological ownership) and in materialistic terms. In this sense, the psychological ownership takes place in the individual's mind whereas the materialistic ownership is mainly recognised by the society (Pierce et al., 2003). This leads to the conclusion that employee psychological ownership should be seen as an attitude and as distinct from materialistic possession.

Furby (1978) looks at the nature of possession and ownership in two different cultural groups. The study's main purpose is to identify the conceptual meaning of possession and which factors motivate humans, so as to develop a possessive behavior towards the objects. The author examines different age groups, ranging from six to forty-eight years old, in order to observe the way people deal with possession in different stages of their life. Specifically, participants are invited to define possession and provide the researcher with reasons as to why they wish to possess objects. Results indicate that people possess objects because of their utility, or else their materialistic usefulness. Further, the "right to control" emerges as a popular answer for all age groups (Furby, 1978: 52). In other words, people own things because they are able to use them and the act of possessing an object also allows individuals to exercise some kind of control over the object itself (Furby, 1978). Therefore, possessions might become capable of offering a greater meaning to the individual's everyday life or to their existence and/or personality. The idea of control seems to be crucial to the employee psychological ownership construct since ownership is closely related to the feeling of control people can exercise over their ownership.

Moreover, a variety of other reasons seem to be related with possession (Furby, 1978). Younger age groups also mention that possessing an object provides the owner with a sense of enjoyment while at the same time the owner feels the obligation to take responsibility for the object so as to preserve the state of possession. People belonging to the older age group (48.3 years old on average), mention that feelings of pride and satisfaction are associated with the act of possessing an object, since the respondents of this group appear to consider possession as synonymous with achievement (Furby, 1978). Humans acquire objects after devoting some amount of effort. However, Furby's (1978) study examines only materialistic possession and as such some of the observed connection with these feelings may not apply to feelings stemming from psychological ownership.

Furby (1978) also shows that high school subjects and the older age group suggest that the need for possessing might also be understood in light of social power-status and security. That is, people wish to have in their possession objects that might boost their social profile. In this sense, objects can serve as a means to expose ourselves to our society in the way we wish. As far as security is concerned, possession could serve as a mediator in the objects-society relationship (Furby, 1978). For example, when people own a house they feel that they will always have accommodation or when they own a car they feel safe in terms of transportation. However, the nature of this feeling of security is not fully captured in Furby's study (Furby, 1978). Another dimension which appears to be important to older people is that objects they possess can be viewed as extensions of themselves (Furby, 1978). This affirmation complies with the idea that possessing an object might enhance one's social status. Humans possess objects that represent their needs, wishes and beliefs or paraphrasing Descartes's words: "I own, therefore I am". Although Furby's (1978) study is used to explain employee psychological ownership, it could be claimed that psychological ownership boosts the employee's profile and creates a sense of safety. According to Kahn (1990) status is one of the two characteristics that influence meaningfulness at work, whereas security is close to safety, one of the psychological conditions of

engagement. This provides some indication of the potential linkage between employee psychological ownership and engagement.

Furthermore, Furby (1978) also considers control as one of the crucial factors that define private ownership. Furby (1980) examines the psychological dimensions of collective ownership and, specifically, discusses the collective possession inside and outside families, among Americans and Israelis. The findings are in accordance with Furby (1978)'s previous research results and suggest that the feeling of ownership offers individuals the possibility to exercise control over the objects. Therefore, ownership mediates the relationship between possession and control (Furby, 1980). In an organisational context, this control that derives from feelings of ownership could be seen as a job resource that can motivate employees to exert extra effort and become engaged.

In general, the findings of the two studies discussed earlier illustrate that despite the differences between the different age and cultural groups, two important conclusions can be derived (Furby, 1980). First, possession is related to self-concept in the sense that possession is the extension of oneself (Furby, 1980). Self-concept is similar to what Dittmar and Pepper (1994) describe as social constructionism and it is related to the fact that people might view objects as symbols of their personality. Dittmar and Pepper (1994) examine how materialism impacts people's perceptions when they make judgments about one another and they invite people from different social classes to express their ideas about those who possess expensive objects and those who do not. In particular, Dittmar and Pepper (1994) make reference to two different theoretical perspectives: social identity theory and dominant representations. First, according to social identity theory, people view each other in terms of their belongingness. People also use representations to reach conclusions about another's potential, skills and talents. Representations help people to make comparisons and distinguish the good from the better. Second, possession is related to the control subjects can exercise on objects. The interaction between possession and control, and the efficacy included in it, between the object and the owner motivates humans to possess objects (Furby,

1980). Individuals who achieve great results either in materialistic or non-materialistic terms, can demonstrate publicly the degree of their self-efficacy.

The next section discusses the dimensions of employee psychological ownership as they appear in the academic literature. Their importance is highlighted by the fact that by acknowledging them, we will be able to better understand the construct of psychological ownership and how it could be related to work engagement.

2.3 Dimensions of Employee Psychological Ownership

Pierce et al. (2001), drawing from the work of Hackman and Oldham (1975) and Dittmar (1992) who claim that psychological ownership fulfils certain human motives, argue that employee psychological ownership consists of three dimensions: self-efficacy/control, self-identity and belongingness. These are the factors that facilitate the appearance of psychological ownership (Pierce and Rodgers, 2004). In fact, these three basic human motives are satisfied under the feeling of psychological ownership (Pierce et al., 2001).

In Avey et al. (2009)'s research, two more dimensions are added to describe employee psychological ownership: territoriality (as suggested by Brown et al., 2005) and accountability. Thus, employee psychological ownership consists of five dimensions, namely: self-efficacy, self-identity, accountability, belongingness and territoriality. The multi-dimensionality of psychological ownership is demonstrated in the scale introduced in the academic literature of employee psychological ownership by Avey and Avolio in 2007, the Psychological Ownership Questionnaire (POQ). Although there is another scale that was developed by Pierce et al. (1992) and received further validation by Van Dyne and Pierce (2004), the POQ acknowledges and better captures the dimensionality of the construct. Specifically, the POQ takes into consideration the dimensions of psychological ownership which will be presented in the current section (section 2.3) (Table 2-4). Therefore, the POQ is a more complete measure of employee psychological ownership because it measures the five dimensions and, hence, it is in accordance with the current literature. Although the POQ is not without limitations, the discussion of these two scales is reserved until after the dimensions of employee psychological ownership have been introduced (section 2.3.3).

Table 2-4
Measures of Employee Psychological Ownership

<i>Scale</i>	<i>Dimensions</i>	<i>Sample</i>	<i>Total Number of items</i>	<i>α</i>
Pierce et al. (1992)	-	3 field studies	7	.87, 0.90, and 0.93 for each study
Avey and Avolio (2009) – POQ	Self-efficacy Self-identity Belongingness Accountability Territoriality	1 st study: 316 working adults from a wide cross section of organizations, USA 2 nd study: 283 employees of a metallic manufacturing organisation, USA	16	0.90

Avey et al. (2012; 2009; 2007) suggest that employee psychological ownership consists of two types: the promotive and the preventative. The promotive psychological ownership includes self-efficacy, self-identity, belongingness and accountability, whereas the preventative psychological ownership is represented by the concept of territoriality. This distinction between the two types of psychological ownership derives from Higgins (1998; 1997)'s Regulatory Focus Theory. Higgins (1998; 1997) suggests that individuals acquire two self-regulation systems namely promotion and prevention. According to Higgins (1998; 1997) self-regulation refers to the way individuals select goals. Specifically, individuals who are promotion-oriented select goals that reflect their hopes and aspirations; individuals who are prevention-oriented strictly follow rules and procedures and they focus on what they need to avoid so as to minimise punishment from their organisation or employer (Avey et al., 2009).

Put differently, promotion is more related to openness to change and prevention is associated with more conservative values (Lieberman et al., 1999). However, neither of these approaches is more desirable. Individuals need to carry both approaches and apply each of them when necessary. Employees need the promotion dimension to encourage development and progress and the

prevention dimension to ensure safety and stability (Avey et al., 2009). For example, where sharing information may lead to change and improvement within an organisation, an employee with promotive psychological ownership may choose to share the information he/she owns. In contrast, an employee with a more preventative focus may withhold information from others so as to ensure stability and avoid change. Therefore, employee psychological ownership satisfies both types of self-regulation while the promotion and prevention dimensions complement each other and they both important (Higgins, 1998; 1997).

Bakker et al. (2008) discuss the theoretical links between the regulatory focus theory and work engagement and invite future research to examine the impact of regulatory foci on work engagement. Specifically, Bakker et al. (2008) suggest that promotion-focused employees may become engaged because of the resources they have at their disposal and prevention-focused employees may become engaged because of the existing rules within an organisation. Therefore, Bakker and Demerouti (2008) suggest that a focus on the regulatory foci as a mechanism that initiates work engagement will provide more insight about the factors that motivate employees to become engaged in their work. In line with the above, the present thesis will explore the promotion and prevention oriented types of psychological ownership in relation to work engagement. In the following section the dimensions of promotive and preventative psychological ownership and their linkages to work engagement are discussed.

2.3.1 Promotive Psychological Ownership

2.3.1.1 Self-efficacy

Self-efficacy is the degree to which individuals believe in themselves so as to implement a task successfully (Bandura, 1997). Gecas (1989) postulates that self-efficacy concerns people's judgements about their effectiveness and competence. Gist and Mitchell (1992) identify the dynamic nature of the concept and describe self-efficacy as one's expectations of his or her performance on a certain task, in relation to his/her abilities and skills. Self-efficacy is often confused with other related constructs such as the concept of self-esteem (Gist and Mitchell, 1992). However, they are distinct since self-esteem concerns the feelings of worth or liking that one attaches to oneself, whereas self-efficacy is an evaluation about task competence (Gist and Mitchell, 1992). Furthermore, self-esteem is related to personal judgements for a range of different situations while self-efficacy focuses on specific job-related tasks (Brockner, 1988).

The concept of self-efficacy draws from two different schools of thought which tend to examine self-efficacy either in terms of motivation (motivational theories) or in terms of expectancies (cognitive theories) (Gist and Mitchell, 1992; Gist, 1987). Although self-efficacy draws from motivational theory, motivation and self-efficacy are not synonymous (Mathieu et al., 1993; Gist and Mitchell, 1992; Gist, 1987). Thus, self-efficacious employees will be motivated towards the achievement of their work goals but motivation is a wider construct than self-efficacy. The following paragraphs will explain the two different approaches of self-efficacy.

White (1959) introduced the theory of effectance motivation according to which humans have an inner need, or motivation, to act within their environment. By taking White's theory one step further, Harter (1978) considers the motivational factors that enable people to deal with challenges, which he called competence motivation. Deci (1975) also examines the concept of intrinsic motivation in terms of competence, whereas some motivation theories emphasise more on the experience of control (Gecas, 1989). Further, in the literature there exists a relationship with the competent

self (Smith, 1968), interpersonal competence (Foote and Cottrell, 1955) and achievement motivation (Atkinson and Raynor, 1974). Therefore, despite the different theories and conceptualisation developed in the literature, this study adopts the view that self-efficacy motivates the individuals to be proactive, competent and have control over the achievement of their goals.

By contrast, cognitive theories of self-efficacy draw largely from attribution and social learning theories and they focus more on beliefs of control rather than on the motivation to exercise control (Gecas, 1989). Attribution theories articulate that people, in order to control their environment effectively, exercise causal analysis; the social learning theory supports a pendulum, the opposites of which are efficacy expectations and outcome expectations (Gecas, 1989). Bandura (1977) develops the concept of self-efficacy by drawing from social learning theory. Specifically, an efficacy expectation is the degree of success with which someone can accomplish a task, whereas an outcome expectation concerns the outcome of a specific action and it does not concentrate on individual performance. However, this distinction that Bandura makes has been criticised severely because of its weakness in providing a holistically distinctive relationship between efficacy and outcome expectations (Eastman and Marzillier, 1984).

Bandura (1977) suggests that self-efficacy is a three-dimensional construct and consists of magnitude, strength and generality. Magnitude is the level of difficulty someone thinks they can handle for a specific task. Strength applies to magnitude and its strength or weakness. Generality is about the degree of generalization of the estimates people make about themselves (Gist, 1987). Furthermore, he argues that there exist four different sources that provide information about an individual's levels of self-efficacy (Bandura, 1977). Vicarious experience is what Bandura (1977) calls the act of observing others to perform difficult tasks in a successful way. Verbal persuasion concerns the information one might receive from others relating to his/her own performance and abilities; emotional arousal is the assumption people make about their skills according to their emotional situation. Therefore, self-efficacy depends on observing others to perform difficult tasks successfully, on being persuaded

by others that one can achieve a goal and on the individual's emotional state about completing a task in a successful way or not.

The last source of self-efficacy, the personal mastery experiences, concern people's achievements in terms of performance and it is considered by Bandura (1977) the most important of all. Specifically, Bandura (1977) articulates that earlier performance outcomes are capable of becoming strong predictors of one's assumption of his/her self-efficacy. Bandura actually suggests that past performance may serve as a good indicator of future performance in the sense that earlier success will encourage future achievements via high levels of self-efficacy. Bandura (1978) claims that an individual's levels of efficacy and performance outcome impact on the way they respond to their environment and those reactions shape their consequent behaviour. That said, performance achievements can serve as a means to enhance or reduce self-efficacy, depending on earlier results (Bandura, 1978). Furthermore, high self-efficacious individuals tend to reward themselves after a great accomplishment (Bandura and Perloff, 1967) and those who reward themselves perform better than those who do not (Bandura, 1980; Flexibrod and O'Leary, 1973).

A number of studies have indicated a range of possible antecedents of self-efficacy. Particularly, transformational leadership (cited in Knippenberg et al., 2004), work autonomy (Mortimer and Lorence, 1979), low degree of routinisation and supervision at work (Gecas and Seff, 1987; Staples et al., 1984), feedback and credibility, expertise, trustworthiness, and prestige of the person offering the feedback (Bandura, 1977) are positively related to self-efficacy. Bandura and Cervone (1983) further indicate that feedback influences efficacy perceptions. In particular, self-efficacy mediates the relationship between feedback and performance (Pieper and Johnson, 1991). In other words, high self-efficacious individuals are able to deal better with their supervisor's feedback which will subsequently impact on their performance, in comparison to low self-efficacious individuals. Eden (1990) also claims that supervisors may be responsible for their employees' perceptions of self-efficacy. Job resources such as performance feedback, social support and supervisory coaching are positively related to work engagement (Bakker et al., 2008; Schaufeli and Bakker, 2004). The relationship between job resources,

such as performance feedback and supervisor support, and work engagement is mediated by personal resources such as self-efficacy (Xanthopoulou et al., 2007). In that sense self-efficacy is a personal resource that leads to work engagement. Hence, when employees receive feedback or supervisor support their self-efficacy increases and subsequently impacts positively on their work engagement.

Previous research also demonstrates a number of consequences of self-efficacy including better psychological health, creativity, cognitive flexibility, better problem-solving and coping skills, higher self-esteem, (Gecas, 1989) and task persistence (high self-efficacy means that employees are persistent) (Cervone, 1989; Brown and Inouye, 1978 cited in Relich et al., 1986). As highlighted earlier, persistence is also used to describe vigor, one of the three dimensions of work engagement as supported by Schaufeli and his colleagues (2006) (section 2.1.1). Similarly, Rodriguez-Sanchez et al. (2011) support that self-efficacy is an antecedent of flow as conceptualised by Csikszentmibalyi (1990); as discussed earlier (subsection 2.1.1) the term “flow” is close to absorption, as conceptualized by Schaufeli et al. (2002). Moreover, self-efficacy leads to goal level, task performance and goal commitment (when goal was self-set), (Gist, 1987; Locke et al., 1984), sales performance (Barling and Beattie, 1983), research productivity (Taylor et al., 1984) and academic achievement (Multon et al., 1991; Relich et al., 1986). Therefore, self-efficacious employees become more persistent, or else more vigorous, towards the fulfilment of their tasks; they have control in their jobs and thus work engagement is expected to increase.

Particularly, self-efficacy is a personal resource (Bandura, 2000). According to Hobfoll (1989)’s conservation of resources theory, individuals who own resources will try to protect them and accumulate them. Since resources appear in caravans and they support the existence of more resources, individuals who work in a resourceful environment are expected to believe more in their capabilities (Hobfoll, 2002). When people believe in their ability to fulfil their job tasks they are also expected to develop a stronger feeling of self-efficacy (Bandura, 1989). Therefore, a working environment in which employees can believe in their capabilities will increase self-efficacy and, subsequently,

employees may demonstrate higher levels of work engagement (Bakker and Demerouti, 2008; Xanthopoulou et al., 2008; Xanthopoulou et al., 2007b).

Recent research findings also support the idea that self-efficacy leads to work engagement. Specifically, Consiglio et al. (2013) illustrate that self-efficacy is negatively related to burnout and that job demands and job resources partially mediate the relationship between self-efficacy and burnout. Del Libano et al. (2012) demonstrate that self-efficacy is positively related to work engagement. Thus, the higher the levels of work-related self-efficacy the higher the work engagement will be.

Moreover, Xanthopoulou et al. (2007a) admit that self-efficacy, organisational-based self-esteem and optimism lead to work engagement; Xanthopoulou et al. (2009; 2008) indicate that self-efficacy, resilience and optimism contribute to work engagement. Last but not least, Luthans et al. (2007) examined the relationship between the construct of psychological capital (PsyCap), (which consists of self-efficacy, optimism, hope and resilience) and work engagement. Particularly, they identified that psychological capital is a significantly important predictor of work engagement (Luthans et al., 2007). Therefore, self-efficacy is a personal resource which is encouraged by other job resources such as supervisor support and performance feedback, creates persistent employees towards the achievement of their work goals and leads to work engagement.

2.3.1.2 Self-identity

Self-identity is the way people view themselves or else the awareness people acquire about their competences, beliefs and values (Knippenberg et al., 2004). Individuals can have more than one identity, implying that each personality forms different identities under diverse circumstances (i.e. a self as an employee is one identity, a self as a parent is another identity etc.) (Knippenberg et al., 2004). Employees establish and maintain their self-identity through interactions with psychological possessions such as the organisation they work for (Rousseau, 1998). Thus, psychological feelings of ownership towards the organisation will make employees identify themselves as being unique (Avey et al., 2009). Hence, the feeling of psychological ownership

towards the organisation makes employees define themselves as part of an organisation (Pierce et al. 2001).

In the literature there are three different types of self-identity, which are viewing identities as social products, as self-meanings and as symbols (Burke and Reitzes, 1991). Identities as social products are shaped by placing the self in a certain social category and by interacting with others in terms of these categories (Burke and Reitzes, 1991). For example, employees interact with their colleagues as part of the same organisation. Identities are also self-meanings in the sense that they are formed under particular circumstances and go through comparisons of this specific role to other rival roles (Burke and Reitzes, 1991). For example, an employee becomes part of a team and makes comparisons of this team to another team or organisation. Identities are symbols that invite the same reactions from members of the same group. Employees within the same organisation are expected to behave in a similar manner and comply with the organisation's rules of acceptable behaviour. Therefore, self-identities can serve as references for understanding behaviours and can motivate action by creating an active self and promoting interaction between individuals (Burke and Reitzes, 1991).

Apart from the types of self-identity, there are also three different levels of self-identity: the individual, relational and collective identity (Johnson and Lord, 2010). An individual identity concerns personal ambitions and performance is shaped by personal achievement (Johnson and Chang, 2008). A relational identity reflects actions in compliance with the beliefs of someone else (Johnson and Chang, 2008). Collective identity focuses on the well-being of a group and the promotion of its expectations (Johnson and Chang, 2008; 2006). Any uncertainty in terms of conceptualising self-identity and establishing its distinctiveness with social identity suggests that self-identity is related to the individual's beliefs of who and what they are; social identity describes the society's or the organisation's beliefs about who and what someone could be (Watson, 2008). Therefore, self-identity is a concept distinct from social identity.

Furthermore, Rousseau (1998) defines self-identification with an organisation as the psychological state employees adopt or go through that makes them perceive themselves as a member of the larger organisation. It mainly concerns an expanded self during which the employee shares the same interests with the organisation because of a mental turn dictating that the self belongs to a wider “us” (Rousseau, 1998). The latter represents one of the deepest human motivations enabling an employee to fulfil his/her need of belongingness and protecting the self from the constant changes in the social environment (Brewer, 1991). Therefore, employees wish to identify themselves with the organisation they work for because of their inner need to belong to a bigger whole and satisfy their social self.

Johnson and Lord (2010) support that self-identity moderates the relationship between supervisor satisfaction, affective commitment and continuance commitment, whereas Rousseau claims that full-time employment (in comparison to part-time) is viewed as an antecedent of self-identity. Furthermore, self-identity leads to enhanced organisational performance (Castanias and Helfat, 1991), affective commitment (Johnson and Chang, 2006; Becker et al., 1996) and employee well-being (Weiss, 1990). According to conservation of resources theory (Hobfoll, 2002; 2001) people who own resources will strive to retain and develop them. Thus, employees who identify themselves with their organisation are expected to be more willing to maintain their membership and be emotionally attached to the organisation so as to retain their self-identity. Specifically, employees who identify themselves with their organisation, will try to maintain this identity by staying in the organisation and, subsequently, becoming engaged. Therefore, self-identity is a way for individuals to control their environment and successfully impact it and as such self-identity is a personal resource (Hobfoll et al., 2003).

The two previous sections demonstrated that self-efficacy and self-identity (dimensions of the employee psychological ownership) are both personal resources and could be related to work engagement. In the next sections the sense of belongingness, accountability and territoriality are discussed.

2.3.1.3 Belongingness

Belongingness in terms of psychological ownership in organisations is the feeling that one belongs in an organisation (Avey et al., 2009). Pierce et al. (2001) suggest that the feeling of belonging to a place or a social group represents one of the most inherent human needs. In organisational terms, the need to belong becomes satisfied under employee psychological ownership (Avey et al., 2009; Pierce et al., 2001). Put differently, employees will take ownership of their organisation or work in an effort to satisfy their need for belongingness (Avey et al., 2009; Ardrey, 1966). Consequently, employees will develop a sense of security and pleasure (Heidegger, 1967). Therefore, employee psychological ownership satisfies the employees' need of belongingness and makes employees feel they are "at home".

The idea of belongingness is closer to the idea of psychological possession, which was discussed earlier, than the other four dimensions of employee psychological ownership. However, employee psychological ownership is more than mere possession and the same is suggested for the idea of belongingness. Hence, employee psychological ownership is more than satisfying the need of belongingness. Specifically, employees who psychologically own their organisation are self-efficacious, identify themselves with the organisation or else the organisation is an extension of their self. In addition, they hold themselves and others accountable for their decisions and actions; they feel they are "at home" and they can defend their property, or else their work or organisation (Avey et al., 2012; 2009; Pierce et al., 2001). Therefore, the need of belongingness is one of the needs satisfied under psychological ownership.

The key issue to belongingness is the act of working together with other colleagues, or else team-work (McClure and Brown, 2008). Working in groups enhances the human belief that one is appreciated and valued, thus he/she belongs to a group (McClure and Brown, 2008). In fact, at the heart of teamwork is found the idea of belongingness (Reddy, 1994) and the deeper this idea goes through the members of the same group, the greater the goal fulfilment that can be achieved (McClure and Brown, 2008). In other words,

the sense of belongingness heightens the sense of meaningfulness (Block, 2008); Rosso et al. (2010) affirm that individuals meet meaningfulness in the context of that belongingness. According to Kahn (1990), meaningfulness is one of the dimensions of engagement. Therefore, belongingness, as a dimension of employee psychological ownership, enhances the sense of meaningfulness and subsequently impacts engagement.

Moreover, Billett (2004) points out that individual identity is redefined and negotiated constantly, hence it can be aligned to the dynamic nature of the group to which one belongs, preserving the feeling of belongingness. Baumeister and Leary (1995) also state that the sense of belongingness is grounded on two principal ideas. People have the inherent idea first to interact with others and second to feel that their life and personality is qualified by stability and sedulousness. What is mainly implied is that individuals need to be socially active and maintain this sociality in respect to promoting healthy psychological conditions for themselves. Therefore, the sense of belongingness helps employees to maintain their health, mental and physical order and as such it is considered a job resource (Demerouti et al., 2001). In addition, this close relationship between self-identity and belongingness complies with the argument supported in this thesis. Specifically, self-identity and belongingness are resources which are mutually related and employees will try to maintain these resources so as to reduce stress and the associated costs (Hobfoll, 2001).

Maslow (1998), in his hierarchy of human needs asserts that self-actualisation is a result of the satisfaction of other primary needs. Maslow (1998) postulates that people after fulfilling the basic physiological needs (need for food and water), then have to satisfy their safety and social needs, or esteem needs. Specifically, individuals seek a home and to belong to a place; and the satisfaction of basic human needs is likely to increase work engagement (Schaufeli and Bakker, 2004). The need of belongingness is satisfied by social support – one of the job resources in the JD-R Model (Schaufeli and Bakker, 2004). This is in agreement with Hobfoll (2002; 2001)'s conservation of resources theory where one resource will encourage the appearance of another resource, hence the resource of social support will encourage another job resource, belongingness. Also, drawing from the JD-R Model, the availability

of job resources increases feelings of belonging to the organisation (Xanthopoulou et al., 2007a), which also signifies that the presence of resources will support the appearance and development of more resources and subsequently lead to higher levels of work engagement. Therefore, the three job and personal resources discussed so far – self-efficacy, self-identity, belongingness – as part of employee psychological ownership, establish further the theoretical model of this research and support the view that job and personal resources are characterized by a mutual relationship.

2.3.1.4 Accountability

Accountability is seen as the act of justifying one's own beliefs, feelings and actions to others (Lerner and Tetlock, 1999). As Pierce et al. (2003) explain, employees who experience high levels of psychological ownership expect to hold the potential to call others to account for influences on their organisations. Further, accountability is related to the positive/negative impact employees' actions may have on each employee as a result of viewing the organisation as an extension of the self (Pierce et al., 2003).

Accountability can be considered one of the fundamental issues in organisations. The modern working environment makes more evident the need to provide employees with autonomy and control over their work because autonomy is related positively to engagement and productivity (Frese and Fay, 2001; Maslach et al., 2001). In other words, accountability entails a degree of autonomy and empowerment offered by the organisation to the employees and makes managerial control less apparent (Frink and Klimoski, 1998). The feeling of necessity for taking on more responsibilities from the employees' perspective is inextricably related to accountability, sometimes taking the form of performance evaluations, manuals and team regulations (Frink and Klimoski, 1998). Accountability can enhance the self-evaluation systems developed by each individual and offer some insights into their performance because employees monitor themselves and they feel responsible for their performance (Frink and Klimoski, 1998). In this sense, employees can evaluate their performance and improve themselves when necessary. Therefore, accountability is related to the autonomy offered by the organisation; it can

enhance personal growth and development and as such it can be considered a job resource (Schaufeli and Bakker, 2004).

Lerner and Tetlock (1999) provide the academic literature with an insight into how accountability is treated under diverse conditions. The first condition is related to the need for conformity as people desire to gain the approval of those to whom they are accountable. Hence individuals adopt beliefs which will offer them generous support and appreciation (Lerner and Tetlock, 1999; Klimoski and Inks, 1990; Tetlock et al., 1989). This sense of conformity requires an a priori knowledge of the opposite group's ideas and values. Furthermore, the authors refer to the pre-decisional versus post-decisional accountability dictating that people need to be consistent with their decisions and reside in their principal ideas or decisions. This consistency is more likely to be maintained when individuals focus on the outcomes of their decisions rather than on the processes during which decisions are shaped (Lerner and Tetlock, 1999). The authors also point out that the accountability should be implemented within legitimate borders, else there would be no reason for someone to offer justification for his/her actions (Lerner and Tetlock, 1999). Thus, accountability is offered by the organisation or the manager and a high sense of accountability and empowerment makes individuals believe that they belong to a bigger whole, supporting their sense of belongingness. In turn, people try to act the way their organisation or their manager expects them to in order to receive support and appreciation. Therefore, accountability is a job resource offered by the organisation and when employees own this resource, according to social exchange theory, they will reciprocate with values that the organisation values. The idea that accountability is a job resource is also in agreement with Hobfoll (2002; 2001)'s conservation of resources theory. Specifically, accountability is supported by the existence of other resources such as social and supervisor support and belongingness.

In general, accountability offers a wide range of outcomes including high performance (Fandt and Ferris, 1990), greater satisfaction (Haccoun and Klimoski, 1975), job satisfaction and trust in the supervisor and management (Thoms et al., 2002) and flexible organisational structures (Thoms et al., 2002). Further, an employee may be motivated by the obligation to account for his/her

actions and perform better (Thoms et al., 2002). Therefore, accountability leads to a number of positive outcomes which are also associated with work engagement.

However, the concept of accountability fosters that if people do not provide enough justification for their actions, harmful effects, such as loss of job autonomy, will arise in the future (Stenning, 1995). Specifically, the down side of accountability includes a failure to experience freedom or even life (Stenning, 1995). Lerner and Tetlock (1999) claim that accountability creates a prism of complex relationships, which in turn consists of rules and dynamic reactions. Individuals need to be aware of these rules if they wish to maintain membership in a certain society, group or organisation. Therefore, the degree to which accountability impacts each employee depends on his/her personal traits and characteristics (Tetlock, 1992). It may also be the case that not all employees wish either to be accountable or experience freedom and autonomy from their work (Frink and Klimoski, 1998). The academic literature dictates more attention to the concept of accountability and further research should provide empirical support for the relationship between accountability and other work-related constructs (Frink and Klimoski, 1998).

Last, drawing from the Conservation of Resources theory (COR), accountability can facilitate the resource gain through positive evaluations and ensure the sustainability of resources (Lanivich et al., 2010). Frink and Klimoski (1998) illustrate that the way employees consider accountability depends to a great extent on the relationship between themselves and the immediate supervisor. Supervisor support is an important job resource; accountability can therefore be regarded as a job resource, and not as a job demand, since it promotes personal growth and development and helps employees to achieve their work goals.

2.3.2 Preventative Psychological Ownership (Territoriality)

Territoriality represents preventative psychological ownership, as explained earlier (Avey and Avolio, 2007). Brown et al. (2005) suggest that psychological ownership is capable of creating feelings of territoriality because often employees become too preoccupied and feel they need to defend their target of ownership – their organisation. According to this, territoriality could be defined as the employees' effort to protect their ownership (their job or their organisation) and to communicate ownership to potential threats and the social unit as a whole (Avey et al., 2009). In fact, employees with a high level of psychological ownership are likely to develop an equally strong sense of territoriality (Brown et al., 2005). Thus, feelings of ownership may make employees defend or over-protect their organisation or their job tasks.

Territoriality can occur when individuals feel defensive towards their property, or else their job or organisation (Avey et al., 2009). When employees expect to receive fringe benefits because of this ownership, they make apparent that their job and/or organisation is surrounded by boundaries that co-workers are not permitted to invade (Avey et al., 2009; Brown et al., 2005). Therefore, territoriality entails a negative aspect since it can burden knowledge-sharing and collaboration among organisational members (Avey et al., 2009; Pierce et al., 2001).

However, territoriality is not necessarily always negative as it may prove beneficial for both the employee and the organisation. To be more specific, employees may become unwilling to share corporate information with their competitors such as projects or financial figures as a result of defending their “property” (Pierce et al., 2009; Wang et al., 2006; Pierce et al., 2001). According to the JD-R Model, employees use personal resources to impact their environment and exercise control over their jobs or organisations (Xanthopoulou et al., 2009). In that sense, positive territoriality could be seen as a personal resource since employees employ it in order to control their environment and defend their ownership.

Nevertheless, the above elements of employee psychological ownership are not considered as the routes leading to psychological ownership, rather they attempt to enhance the understanding of the construct (O' Driscoll et al., 2006). Instead, the major factors leading to employee psychological ownership are investment of the self into the ownership target, knowledge of the target and control over the target (Pierce et al., 2001). To be more specific, organisations offer a series of opportunities to employees in order to help them invest themselves in projects, tasks, colleagues, customers or to the organisation as a whole and exercise ownership towards those targets (Pierce et al, 2001). By the term investment, it is implied that employees may invest their ideas, knowledge, time, passion, skills and psychological attention making them believe that the target of ownership is theirs (Pierce et al., 2001).

Knowledge of the target concerns the fact that the more and better knowledge an individual possesses of the target, the tighter the relationship between the individual and the target and the deeper the feeling of psychological ownership. In organisational terms, when employees appear to acquire plenty of information on their company, they feel they know their organisation well enough and as a result they may demonstrate higher levels of psychological ownership (Pierce et al., 2001).

As far as the issue of control over the target is concerned, employees are more likely to experience higher levels of psychological ownership in organisations where they enjoy more autonomy and control over their job (Pierce et al., 2001). Pierce et al. (2009; 2004; 2001) further suggest that job design and decision-making systems are a catalyst in offering autonomy to employees and as a result develop the feeling of ownership. Druskat and Pescosolido (2002) and Parker et al. (1997) also confirm that autonomy leads to enhanced feelings of ownership. Mayhew et al. (2007) provide empirical evidence that job-based psychological ownership partially mediates the relationship between autonomy and job satisfaction, whereas organisation-based psychological ownership mediates partially the relationship between autonomy and organisational commitment. Pierce et al. (2004) prove empirically that control over one's work leads to psychological ownership. The relationship between control and psychological ownership is also apparent in the work of other researchers

(White, 1959; Dixon and Street, 1957). Therefore, the more control employees have in their jobs and organisation, the higher their level of psychological ownership.

In sum, the construct of employee psychological ownership consists of five dimensions which as presented earlier can be viewed, according to the JD-R Model, as either job or personal resources. In particular, accountability and belongingness are job resources since they are offered by the organisation and refer to aspects of the job; self-efficacy, self-identity and territoriality are personal resources since they concern employees' positive self-evaluations and they are employed for exercising control over their environment (Bakker and Demerouti, 2008). Therefore, it can be suggested that employee psychological ownership, along with its dimensions, is related to work engagement (Bakker and Demerouti, 2007; Schaufeli and Salanova, 2007; Schaufeli and Bakker, 2004).

2.3.3 Critical Reflection of Employee Psychological Ownership

The measurement of employee psychological ownership as suggested by Avey and Avolio in 2007 reflects two distinct types of psychological ownership. These two unique and independent forms of psychological ownership draw from Higgin's (1998; 1997) regulatory focus theory. When applying Higgin's (1998; 1997) theory to examining psychological ownership, employees who are promotion-oriented may experience different feelings of ownership from those who are prevention-oriented (Avey et al., 2009) (section 2.3). The importance of preventative psychological ownership, also known as territoriality, is also noted by Brown et al. (2005). Employees may become territorial over their possessions and territoriality tends to prevent rather than promote the good of the work group. Thus consideration of both types is important when examining employee psychological ownership.

Moreover, Pierce et al. (2001: 299) mention that psychological ownership makes employees think of their organisation as if it is theirs ("It is MINE"). This psychological possessiveness involves some degree of control as

suggested by Furby (1978). However, the idea of control may make employees apply their own personal style to the company's rules (Morris and Feldman, 1996). For example, employees may or may not choose to cooperate with their co-workers. Pierce et al. (2001) acknowledge that there may be a negative side related to psychological ownership but this is not reflected in their measure. In fact, they mention that psychological ownership may entail lack of information sharing which can impede cooperation (Pierce et al., 2001); this is close to preventative psychological ownership. Therefore, although Pierce et al.'s (1992) scale presents the first conceptualization of employee psychological ownership, it presents a quite narrow idea of the concept since it does not take into consideration the different types. The inclusion of both types of ownership as expressed in Avey and Avolio's (2007) measurement reflects a more complete picture of the construct.

Furthermore, the three dimensions of psychological ownership, self-efficacy, self-identity and belongingness are already acknowledged by Pierce et al. (2001). Specifically, Pierce et al. (2001) mention that efficacy, self-identity and 'having a place', or else belongingness are satisfied under employee psychological ownership. Although the importance of these three dimensions of employee psychological ownership is recognized in Pierce et al. (2001), these dimensions are not reflected in their operational definition. Avey and Avolio (2007) build on this previous literature by adding two additional dimensions of psychological ownership, accountability and territoriality (preventative psychological ownership). Hence, Avey and Avolio (2007) present a more enriched understanding of employee psychological ownership.

In addition, the scale introduced by Pierce et al. (1992) draws from the idea of possession. Thus, all the items of the scale reflect possessive vocabulary as seen in everyday associations with property and possessions. Van Dyne and Pierce (2004) provide specific instructions to respondents before filling the questionnaire.

“Instructions: Think about the home, boat or cabin that you own or co-own with someone, and the experiences and feelings associated with the statement ‘THIS IS MY (OUR) HOUSE!’ The following questions deal with the ‘sense of ownership’ that you feel for the organization that you work for. Indicate the degree to which you personally agree or disagree with the following statements.” (Van Dyne and Pierce, 2004: 449). Then the scale is presented (Table 2-5):

Table 2-5
Employee Psychological Ownership Scale by Pierce et al. (1992)

Employee Psychological Ownership Scale by Pierce et al. (1992)
1. This is MY organization.
2. I sense that this organization is OUR company.
3. I feel a very high degree of personal ownership for this organization.
4. I sense that this is MY company.
5. This is OUR company.
6. Most of the people that work for this organization feel as though they own the company.
7. It is hard for me to think about this organization as MINE. (reversed)

Some items are repetitive, for example items 1 and 4 or items 2 and 5. Also, this scale does not reflect the dimensions of employee psychological ownership as expressed in the academic literature and also acknowledged by Pierce and his colleagues.

Taken together, it seems more appropriate to use Avey and Avolio’s (2007) scale of employee psychological ownership although it is a relatively new scale. Avey and Avolio (2007) draw from Pierce and his colleagues and the general literature around psychological ownership. Therefore, their scale reflects the two distinct types of psychological ownership (promotive and preventative) and also uses the dimensions that have been presented in the relevant literature.

2.4 Job Demands

In this thesis job demands will be examined in relation to employee psychological ownership and work engagement. This thesis adopts the distinction between hindrance stressors and challenge stressors, suggested by the literature (Crawford et al., 2010; Podsakoff et al., 2007). Specifically, emotional demands, emotional dissonance and negative work-home interference are seen as hindrance stressors (Van den Broeck et al., 2010). Workload, mental demands, changes in organisation and positive work-home interference are seen as challenge demands (Van den Broeck et al., 2010).

The choice of these specific demands is based on two criteria. First, those characteristics that are found in previous research to be significant for the majority of jobs are included (Bakker and Demerouti, 2007; Lee and Ashforth, 1996). Second, Demerouti and Bakker (2011) mention that certain job demands may be more relevant to a certain organisation and a certain job function. The scales for these specific demands were already translated in Greek by Xanthopoulou and were identified as demands that are important for the Greek setting where this research is conducted. Each of these demands will be discussed in the remainder of the current section.

Workload

Workload is an overload of demands at work (Maslach et al., 2001). Karasek (1979) suggests that overload can be seen as a mismatch in workload; excessive workload may exhaust the employee's energy to the point where recovery is not possible. Karasek (1979) mentions that an overload may occur even when the quantity of the required work does not exceed reasonable levels; for example, when an employee is not competent enough to deal with the work or when an employee does not have an inclination to finish the task. Workload is mostly linked to the exhaustion dimension of burnout. Therefore, when an employee has to deal with excessive tasks or when he or she does not have the necessary skills, more effort will be required which may lead to exhaustion.

Mental demands

Mental demands concern the degree to which work tasks make an employee expend continuous mental effort in carrying out his or her duties (Peeters et al., 2005). As with workload, mental demands can occur when an employee is not competent enough to finish a task or when extra work experience is required to deal with a difficult task. Mental demands can also occur as a result of the constantly changing work environment (Peeters et al, 2005). For example, the use of new technologies may encourage the appearance of mental demands especially for older employees who do not have the required skills to deal with this change. Therefore, mental demands will require extra effort from the employee in order to achieve work goals.

Emotional demands

Emotional demands refer to the intensity and frequency of effort encompassing psychological stress and risk (Steinberg and Figart, 1999). Emotional demands occur when an employee has to deal with people or customers who are in emotional need. Emotional demands can also take place when an employee has to interact with customers who are uncooperative, confused, angry or in general under some psychological tension. Further, when an employee has to fake a feeling or when there is a difficult occasion where the employee will have to deliver unpleasant news, emotional demands are likely to increase (Steinberg and Figart, 1999).

Emotional demands are particularly important for employees who have, as part of their work, to interact with other people outside the organisation i.e. clients. Specifically, if emotional demands can exhaust the employees' capacity to involve with and respond to customers, they are more likely to detach from their job. Therefore, employees will not exert extra effort and will not accomplish their goals.

Emotional dissonance

Emotional dissonance takes place when an employee is invited to express an emotion that in the given situation is not genuine (Zapf et al., 1999). Emotional dissonance can be also seen as the discrepancy between displayed and felt emotions (Morris and Feldman, 1997). Emotional dissonance is said to be linked to emotional exhaustion (Zapf et al., 1999; Maslach, 1982). In that sense, when an employee cannot express the real feelings or when he or she is asked to hide his or her true feelings, the employee will have to put in extra effort to demonstrate other feelings and this can lead to emotional exhaustion.

Emotional dissonance is especially important for employees working in the service sector. Service sector employees have to deal daily with customers and it is quite possible that there will be a mismatch between their felt and their displayed emotions in an attempt to please their clients. Indeed, Maslach (1982) shows that frequent, intense and face-to-face interactions are related to higher levels of emotional exhaustion. Similarly, Cordes and Dougherty (1993) indicate that longer interactions with customers are related to higher levels of burnout. Therefore, emotional dissonance takes place when employees have to deal with people mainly outside the organisation and can exhaust the employee's energy.

It is also suggested that employees who do not demonstrate their real feelings may experience feelings of guilt and blame themselves for being hypocritical (Zapf et al., 1999). This might result in low self-efficacy and a spiral of negativity may begin that will discourage the employee from continued effort. Alternatively, the employee might put the blame on the organisation and negative attitudes towards the organisation may develop. Therefore, emotional dissonance leads to exhaustion (Morris and Feldman, 1998; Lee and Ashforth, 1996) and depersonalization (Grandey, 1998).

Changes in the organisation

The JD-R model suggests that several demanding characteristics of the working environment may lead to the impairment of health (Bakker et al., 2003). Changes taking place in the organisation may be seen as a job demand because they require extra effort from the employee in order to accept, appreciate and adjust to the new status. However, people's perception and adaptation to change is variable (Xanthopoulou et al., 2007; Bandura, 2000). Therefore, a change taking place in the organisation can be either welcomed or disapproved by different employees.

In addition, according to the way challenge stressors are defined, these demands can promote personal growth and goal achievement (Podsakoff et al., 2007). These stressors challenge employees to develop themselves. In this sense, a change in the organisation may be welcomed by employees if it is seen as an improvement in the organisation. Further, a change could motivate employees to exert extra effort so as to accomplish their goals. Employees could also develop themselves more in order to be able to deal with the new aspects of their work and adapt to the new situation. Therefore, changes are considered challenge stressors because although they require extra effort, they can lead to personal goal achievement.

Work-home interference

Geurts et al. (2005) suggest that employees have to deal with demanding job characteristics. When employees cannot recover from strain because of insufficient job resources, this exhaustion and negativity may spill over into the home domain. In contrast, when employees have enough resources to be able to deal with their job demands, this positivity will spill over into the home domain (Geurts et al., 2005). In line with these, Rothbard (2001) shows that engagement in the work domain is related to family positive affect. Therefore, the two domains, work and home, are interrelated and they influence each other.

However, the relationship between home and work domain can be reciprocal (Geurts et al., 2005). Specifically, when individuals have to deal with demands

at home (such as excessive home tasks) and the recovery is not possible, this negativity will be transferred to the home domain. Also, when individuals find the resources to recover from the excessive effort they put in at home, this positivity will influence their work domain.

Taken together, work-home interaction is a process in which an employee's functioning in one domain (work) will be influenced by either negative or positive reactions that exist in the other domain (home) (Geurts and Demerouti, 2003). Last, there are two types of work-home interference, negative and positive. Negative work-home interference refers to the negative reactions which are developed at work and impede functioning at home. Positive work-home interference concerns the positive reactions which are developed at work and facilitate functioning at home (Geurts et al., 2005). Therefore, negative work-home interference should be more related to strain, whereas positive work-home interference should act as a motivator to accomplish goals.

2.5 Affective Commitment

Organisational commitment refers to the strong sense of belonging to the organisation and leads to an obligation from the employee side to care about the organisation and its welfare (Eisenberger et al., 2001). Commitment can be seen both as an organisational attitude (Aggarwal et al., 2007) and as an exchange and a structural phenomenon (Hrebiniak and Alutto, 1972). As explained earlier, social exchange relationships entail the resources the organisation offers to the employees and the employees' response to the receipt of these resources. Employees are expected to reciprocate with more positive attitudes such as commitment and job satisfaction (Cole et al., 2002; Settoon et al., 1996). This is also consistent with the principles of COR theory, which posit that individuals retain resources to avoid the loss of valued resources (Hobfoll, 1989). As employee psychological ownership can be considered a mixture of job and personal resources which are valued by employees, it should lead to a desire to conserve it by remaining within the organisation and, therefore, to the creation of a bond that will engage them more in their work.

Organisational commitment, defined as the willingness of the employee to maintain membership in the organisation, represents the tendency of employees to continue the exchange relationship (Lawler et al., 2008; Kollok, 1994). The exchange of resources creates a sense of predictability and stability in the relationship between the exchanging parts, the organisation and the employee. Therefore, organisational commitment involves an exchange relationship with the organisation such that individuals are willing to give something of themselves in order to contribute to the organisation's well-being (Mowday et al., 1979).

Porter et al. (1974) define organisational commitment as the individual's attachment to the organisation; Canning (1992) defines committed employees as those who are devoted to the pursuit of business goals. Dirks and Ferrin (2001) indicate that employees become more committed when they receive trust from their supervisors and the organisation. Mathieu and Zajac (1990) suggest that the whole society benefits from employee commitment because of low job movements and higher national productivity. When employees are not

committed to the company, they fail to engage in behaviors that support the firm's strategic goals (Boswell and Boudreau, 2001). Therefore, committed employees will reciprocate with positive behaviors that the organisation values.

Affective commitment is defined as the employees' emotional attachment to, or identification with, and involvement in the organisation (Allen and Meyer, 1990) and it is the most indicative of a social exchange relationship because of its behavioral elements (Lavelle et al., 2007). Affective commitment is conceptualised as a response to positive work experiences perceived as being offered by the organisation (Meyer et al., 1998). In this sense, positive experiences, or else employee psychological ownership may lead employees to develop an affective attachment to the organisation. Thus, when employees receive job and personal resources, or when they feel they own their organisation in psychological terms, they are likely to develop, as a response, feelings of affective commitment towards the organisation.

Whether affective commitment is an antecedent or an outcome of engagement remains unclear. Macey and Schneider (2008) suggest that affective commitment is a component of state engagement, along with other work-related constructs signifying that engagement is a broader construct. Harrison et al. (2006) explain that organisational commitment and job satisfaction are attitudes towards the organisation or the job but they do not require any action. Therefore, affective commitment could be seen as a route leading to engagement.

Pierce et al. (2001) propose that psychological ownership is distinct from the construct of organisational commitment because they are grounded in different theoretical backgrounds. Specifically, organisational commitment is grounded on social membership scholarship and psychological ownership is grounded on the theory of psychological possession (Pierce et al., 2001). Van Dyne and Pierce (2004) recognise the distinctiveness of employee psychological ownership with organisational commitment. In other words, psychological ownership asks the question "How much do I feel this organisation is mine?" while commitment asks "Should I maintain my membership in this

organisation?”. Thus, employee psychological ownership is conceptually distinct from affective commitment.

Employee psychological ownership is also distinct from other work-related constructs because it entails a set of rights and responsibilities while it reflects the sense of psychological possession (Pierce et al., 2001). Affective commitment describes the emotional attachment to the organisation and a sense of belonging (Buchanan, 1974; Porter et al., 1974; Lee, 1971). Employee psychological ownership includes, among the four other dimensions, the sense of belongingness. Specifically, the idea of belonging describes the way an individual feels they belong to a place, a group or an organisation. However, the sense of belongingness which describes psychological ownership is related to the psychological possession of the organisation. Put differently, the idea of belonging represents an employee feeling part of an organisation or else the employee is a member of the organisation and is willing to maintain this membership because of an emotional attachment to it. The sense of belongingness illustrates that an employee feels as if the organisation is part of one's possessions and as such a desire to maintain membership to this organisation will be developed. On this basis, employee psychological ownership and affective commitment could be regarded as distinct constructs. Although it may seem that there is a conceptual overlap between affective commitment and employee psychological ownership, there are also theoretical grounds to expect that they are distinct. A thorough empirical examination may be warranted to assess their distinctiveness.

2.6 Job Satisfaction

Locke (1976:1300) defined job satisfaction as the “pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences”. Cranny et al. (1992) define job satisfaction as an affective and emotional reaction to one’s job. According to Brief and Weiss (2002), job satisfaction reflects both affection and cognition. Thus, when individuals evaluate their job they make use of their feelings and thoughts (Judge and Larsen, 2001). However, Weiss (2002) counters that job satisfaction should be treated as an attitude and not as an affective reaction since job satisfaction reflects an evaluative judgment towards one’s job.

Job satisfaction is an attitude that demonstrates how much an employee likes or dislikes his/her job (Spector, 1997). It concerns the opinion people have of their job or how positive their attitude is towards their job (Aggarwal et al., 2007; Weiss, 2002). Put differently, job satisfaction is related to the feeling of fulfillment for being responsible for specific tasks or for performing a particular work role (March and Simon, 1958). In order to achieve job satisfaction, employees need to satisfy their needs (Porter et al., 1974). Therefore, job satisfaction depends on the employees’ needs and also expectations from the job (Salancik and Pfeffer, 1977). Organisations, if they wish to create an engaged workforce, first will have to satisfy their employees’ needs.

The receipt of personal and job resources is positively related to job satisfaction which will create more engaged employees. The organisation may initiate exchange by offering resources to the employees who then enjoy higher levels of job satisfaction and will reciprocate with higher levels of work engagement. Alternatively, employees may initiate exchange by perceiving these resources valuable and their satisfaction will result in reciprocation of bigger outcomes (Bateman and Organ, 1983). Employees may then provide the organisation with increased levels of work engagement. Seers et al. (1995) suggest that the reciprocity-based relationship between the organisation and the employees predicts positive work attitudes under the veil of job satisfaction. This is also in line with Settoon et al. (1996) who attribute exchange

relationships in the workplace to higher job satisfaction and lower employee turnover. In general, successful exchanges generate feelings of pleasure and satisfaction (Lawler and Thye, 1999). Therefore, the exchange of job and personal resources, represented by employee psychological ownership, will create satisfied employees who will reciprocate with higher work engagement.

Job satisfaction differs from work engagement in that work engagement entails high work pleasure (dedication) and high activation (vigor, absorption); job satisfaction is a more passive attitude (Bakker, 2011). Job satisfaction asks “What evaluative judgments do I make about my job?”. Work engagement asks “How willing am I to go the extra mile for my organisation?”. Further, job satisfaction reflects the extent to which work fulfills the employees’ needs; work engagement describes the employee’s relationship with the work itself (Leiter and Maslach, 2004). Thus, work engagement offers a more thorough explanation about the individual’s relationship with work (Maslach et al., 2001).

Job satisfaction also differs from employee psychological ownership because the focus of each of these constructs is different. Specifically, job satisfaction asks “What evaluative judgments do I make about my job?”. Employee psychological ownership asks: “How much do I feel this organisation is mine?” (Van Dyne and Pierce, 2004). Further, employee psychological ownership satisfies the needs of self-efficacy, self-identity, belongingness, accountability and territoriality (Avey et al., 2009; Van Dyne and Pierce, 2004); while job satisfaction evaluates the extent to which needs are satisfied. Finally, the possessive feeling towards the job (psychological ownership) is different from the positive or negative evaluative judgment of the job (job satisfaction) (Van Dyne and Pierce, 2004).

The relationship between affective commitment and job satisfaction has attracted the interest of researchers. Jenkins and Thomlinson (1992) suggest that affective commitment and job satisfaction are positively related. Meyer and Allen (1991) point out that although these two constructs are positively related, they are distinguishable. Specifically, affective commitment reflects an emotional attachment to the organisation and it is more stable than job

satisfaction (Porter et al., 1974). Further, affective commitment reflects the relationship between the employee and the organisation; job satisfaction is focused on the job (Williams and Hazer, 1986; Mowday et al., 1982).

The causal order between affective commitment and job satisfaction still remains unclear (Lum et al., 1998; Glisson and Durick, 1988). One view supported by Porter et al. (1974) is that job satisfaction is an antecedent of commitment since commitment is more stable and requires more time to develop. This model finds support from a number of studies (Price and Mueller, 1986; Williams and Hazer, 1986; Mowday et al., 1982). The opposite view is that job satisfaction is an outcome of commitment (Salancik and Pfeffer, 1977). This approach suggests that commitment will influence the positive or negative evaluation towards the job. Some studies find support for this model (Dossett and Suszko, 1989; Bateman and Strasser, 1984) while other studies do not (Meyer and Allen, 1988; Curry et al., 1986). However, there is a third perspective by Porter et al. (1974) which suggests that job satisfaction and commitment, although related, are distinct. This approach does not describe any causality between the two constructs and at the same time it does not exclude the possibility of a reciprocal relationship (Tett and Meyer, 1993; Farkas and Tetrick, 1989).

2.7 Perceived Supervisor Support

Eisenberger et al. (2002: 565) define perceived supervisor support as the degree to which employees form general impressions that their supervisors appreciate their contributions and are supportive and care about their well-being. This perception of support and care develops through interactions with the supervisor and the employees. Support perceptions foster in employees a felt obligation to care about the organisation's welfare and help the organisation reach its objectives (Rhoades et al., 2001).

Perceived supervisor support also signifies that employees have the material aid and emotional support when they need it (George et al., 1993). Perceived supervisor support is similar to organisational support but here the feeling that employees are valued assets and their contribution to work is recognized comes from supervisors. Employees may relate perceived supervisor support to organisational support because managers act as the company's representatives (Eisenberger et al., 1986). Therefore, employees who feel they receive support from their supervisor may also perceive that they are supported by their organisation.

As with perceived organisational support, the reciprocity norm applies to perceived supervisor support as well. Employees will feel obliged to repay their supervisor by reciprocating with more positive attitudes. Supportive supervisors can also reduce the stress levels of their subordinates at work and make employees believe that they have more control over their work and their life (Thomas and Ganster, 1995). Therefore, perceived support from supervisors will make employees feel valued and more likely to reciprocate with positive attitudes.

Based on previous studies (Bakker et al., 2012; Bakker et al., 2010; Schaufeli et al., 2008, Xanthopoulou et al., 2007) investigating similar relationships age, gender, educational level, industry and organisational tenure and working hours per week will be controlled.

2.8 Conclusion

This chapter has offered an overview of the literature around employee engagement. The theoretical frameworks surrounding the concept have also been discussed and the measurement scales have been critically evaluated. This thesis adopts the model of work engagement which, despite a series of acknowledged shortcomings, remains the most well-established model of engagement. Work engagement is intrinsically linked with the JD-R model which in this thesis is integrated with SET so as to explain the relationship between work engagement, employee psychological ownership and other studied variables. Employee psychological ownership, its theoretical foundation and its dimensions have been discussed. Both of the existing scales that operationalize the concept have been evaluated, and the POQ developed by Avey and Avolio (2007) appears the most appropriate for use in addressing the main objectives of this research.

The choice of specific job demands that are relevant to this thesis has been explained and each of these job demands has been defined and explained (although this choice will be further explained in Chapter 5). This thesis also adopts the recent literature which distinguishes between hindrance and challenge stressors in order to explain better the relationship between demands, work engagement and employee psychological ownership. Last, the constructs of affective commitment, job satisfaction and perceived supervisor support have been presented so as to explain why these should be included in the measurement models.

The next chapter, Chapter 3, explains the theoretical linkages of all the above constructs. At a second stage, the research questions are presented and the derived contributions are discussed.

Chapter 3

Research Framework and Intended Contribution to Knowledge

This thesis has taken into consideration the theoretical and empirical arguments presented in previous literature and adopts the Social Exchange Theory (SET) and the Job Demands-Resources Model (JD-R Model). As discussed in the literature review (section 2.1.2), the JD-R Model can be supplemented with other theories to better explain the emergence of work engagement. This thesis extends current knowledge by introducing into the JD-R Model and SET the concept of employee psychological ownership, which consists of job and personal resources and i) is related to work engagement ii) mediates the relationship between job demands and work engagement, iii) is related to work engagement through affective commitment and job satisfaction, iv) mediates the relationship between perceived supervisor support and work engagement.

With regard to this, the six main objectives of this research are: 1) to identify the relationship between i) promotive psychological ownership and work engagement and ii) preventative psychological ownership and work engagement, 2) to explain and provide evidence for the mediating role of promotive psychological ownership in the job demands-work engagement relationship, 3) to demonstrate the mediating role of affective commitment and job satisfaction in the promotive psychological ownership-work engagement relationship, 4) to show the mediating role of promotive psychological ownership in the perceived supervisor support-work engagement relationship, 5) to illustrate the contribution of employee psychological ownership to SET and the JD-R Model which will be informed by the above contributions, and 6) to illustrate the distinctiveness of promotive and preventative psychological ownership from the constructs of work engagement, affective commitment and job satisfaction. SET will be used as a framework for explaining the effect of employee psychological ownership (job and personal resources) on work engagement. This thesis supports the proposition that positive exchanges of resources result in reciprocal individual responses. In other words, the existence of employee psychological ownership (job and personal resources) initiates the exchange relationship between the organisation and the employees.

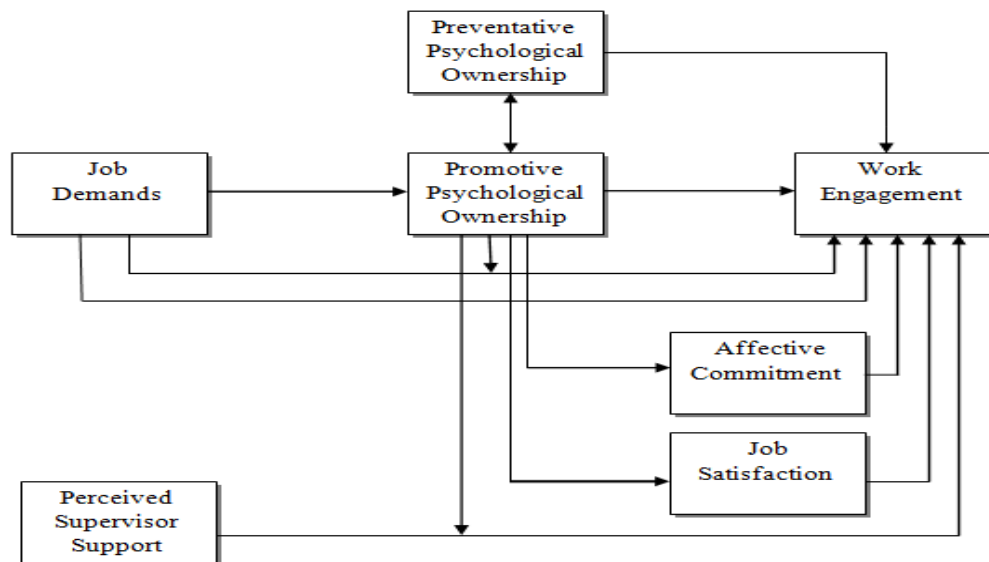
Therefore, when employees have at their disposal these job and personal resources, represented by employee psychological ownership, they feel the obligation to reciprocate with higher work engagement.

The examined variables will deepen the understanding of the studied constructs and will allocate employee psychological ownership in SET and the JD-R Model. The individual employee is the unit of analysis in this thesis, as this offers the opportunity to consider a variety of theoretical and practical implications arising from the relationship between individual feelings of psychological ownership and the engagement of employees.

3.1 Research Framework

Figure 3-1 presents the complete conceptual framework of this research; the rationale for the hypothesised relationships is made more explicit below.

Figure 3-1
Theoretical Model



Employee Psychological Ownership and Work Engagement within the JD-R Model and Social Exchange Theory (SET)

Employee psychological ownership, as described in section 2.2 (p. 45), is related to the feeling of responsibility (Avey et al., 2012; 2009, O'Reilly, 2002; Parker et al., 1997) to make decisions which are in favour of the organisation. Employee psychological ownership is also defined as a “bundle of rights” (Pierce et al., 1991: 6). The feeling of responsibility towards the organisation which is entailed in employee psychological ownership is close to the feeling of obligation to take care of the organisation, which is described in social exchange relationships (Rupp and Cropanzano, 2002; Rhoades et al., 2001). The rights can be viewed as benefits or resources the organisation offers to the employees and as such they can enhance positivity and motivate employees to reciprocate with more positivity, or else, work engagement. Thus, employees who psychologically own their organisation are driven by a sense of responsibility to engage in positive behaviors and reciprocate with higher levels of work engagement. Also, employees who feel they psychologically own their organisation, feel they have the right to express their ideas about the organisation and, hence, will reciprocate the receipt of these rights with higher work engagement. This framing of employee psychological ownership with reference to the norm of reciprocity means that employee psychological ownership by definition can be studied within SET.

Further, Pierce et al. (2001) suggest that feelings of psychological ownership are satisfied under the existence of its dimensions. Specifically, self-efficacy, self-identity, belongingness, accountability and territoriality not only facilitate the emergence of employee psychological ownership but these dimensions are also basic human needs that become fulfilled by the existence of psychological ownership (Pierce et al., 2001). However, employees carry diverse levels of intrinsic, extrinsic and affiliation needs that they seek to satisfy through the lens of social exchange relationships or social transactions with their organisation (Cole et al., 2002). Therefore, social exchange that takes place within organisations enables individuals to satisfy these five needs to psychologically own their organisation and as a consequence reciprocate with positive work outcomes such as work engagement.

Moreover, the abundance of resources and reciprocity from both parties enhances the stability of the exchange relationship, increases the availability of resources and consequently leads to work engagement (Schaufeli et al., 1996). Likewise, the lack of reciprocity and resources signifies a drain of resources which eventually leads to burnout (Schaufeli et al., 1996). When employees receive valuable resources, they will be eager to continue the exchange relationship with their organisation and respond with higher levels of positivity and work engagement. Moreover, because of the norm of reciprocity, employees will generate the creation of more resources. Therefore, when employees develop a feeling of psychological ownership towards their organisation, or when they have available the resources represented by employee psychological ownership, they will continue reciprocating with positive attitudes such as work engagement.

This thesis is the first to propose that the social exchange approach to employee psychological ownership and work engagement can be supplemented by principles from Conservation of Resources (COR) theory (Hobfoll, 2001) in order to better understand the employee psychological ownership-work engagement relationship. In parallel with the social exchange benefits for the organisation, employee psychological ownership represents the resources necessary for employees to carry out their responsibilities as members of the organisation and via this process they become more engaged. The concept of employee psychological ownership is consistent with the principles of COR theory, which posits that individuals strive to retain resources and to avoid the loss of valued resources (Hobfoll, 1989). Therefore, employee psychological ownership not only sets the basis for exchange relationships but also builds resource reservoirs which employees strive to retain.

Job resources are also aggregated in “caravans” in the sense that the existence of a personal resource is usually linked to a number of other resources (Hobfoll, 2001:341). Job resources such as social support could be associated with a personal resource such as self-efficacy (Hobfoll, 2002; 2001:349). That said, employee psychological ownership could be viewed as one such caravan since it is the umbrella term that holds together five different resources. In other words, the nature of employee psychological ownership can become

more explicit when taking into consideration that resources are combined with each other. As employee psychological ownership can be considered a mixture of job and personal resources which are valued by employees, it should lead to a desire to maintain them; at the same time, employees are likely to reciprocate with higher levels of work engagement.

Furthermore, the appearance of job and personal resources should contribute to more positivity; according to SET, a series of exchanges will maximize the employees' gain from the exchange relationship (Blau, 1964). Specifically, the combination of job and personal resources, represented by psychological ownership, can be further established when Fredrickson (2001; 1998)'s broaden-and-build theory is taken into consideration. This theory suggests that positive emotions broaden people's thought-action inventories encouraging them to create a series of novel and positive thoughts or actions (Fredrickson 2001; 1998). The key in this theory is that these broadened mind-sets increase personal resources. That said, positive emotions create upward spirals of more positivity (Xanthopoulou et al., 2007; Salanova et al., 2006; Fredrickson and Joiner, 2002). Likewise, Shirom et al. (2005) suggest that burned out employees are likely to go into a spiral of losses which will eventually lead to a higher level of burnout. This conceptualization of employee psychological ownership through the lens of job and personal resources is new, and it creates an opportunity to contribute to the literature by demonstrating that these resources, like others, are related to work engagement.

The JD-R Model in Social Exchange Theory (SET)

This research is the first to integrate the JD-R Model into SET, thereby answering criticisms that the JD-R Model lacks a sound theoretical framework and that it presents only a limited scope of the antecedents of work engagement (Crawford et al., 2010). Therefore, through the use of SET, this thesis extends the JD-R Model by examining employee psychological ownership as a combination of job and personal resources, the exchange of which will lead to work engagement.

Specifically, this research is the first to highlight the importance of both social exchanges and the resources derived from these exchanges in the emergence of

work engagement. According to the JD-R Model, the existence of one resource implies the simultaneous co-existence of more resources. Especially, when these resources are found in one single construct, a new direct route leading to work engagement emerges. Employee psychological ownership is, to the researcher's knowledge, the first work-related construct that can actually combine and entail a number of resources at the same time. Therefore, employees who are offered the opportunity to develop feelings of psychological ownership are expected to be better able to deal with job demands and will reciprocate with increased work engagement.

The importance of employee psychological ownership is further established and complies with the current knowledge of the JD-R Model. Particularly, employee psychological ownership is a construct that combines a number of job and personal resources, leading to work engagement. Drawing from SET, Hobfoll (2001) and Xanthopoulou et al. (2007a, b, c), this research extends the literature by suggesting that both job and personal resources can be combined and allocated to one single construct. Hence, employee psychological ownership represents this mixture of job and personal resources, the exchange of which can lead to more positive work outcomes such as work engagement.

Affective Commitment and Job Satisfaction as Mediators in the Relationship between Promotive Psychological Ownership and Work Engagement

The contribution of affective commitment and job satisfaction in the relationship between promotive psychological ownership and work engagement is underpinned by the theoretical framework of SET, COR theory and the JD-R Model. This research is consistent with relational models of social exchange, demonstrating that job and personal resources (promotive psychological ownership) generate greater affective commitment and job satisfaction from employees, which then positively influences work engagement. Within a social exchange perspective, it is suggested that promotive psychological ownership (personal and job resources), will induce in employees a felt obligation to reciprocate the organisation with positive attitudes (Gouldner, 1960). This leads to employees experiencing increased affective commitment and job satisfaction and becoming more engaged.

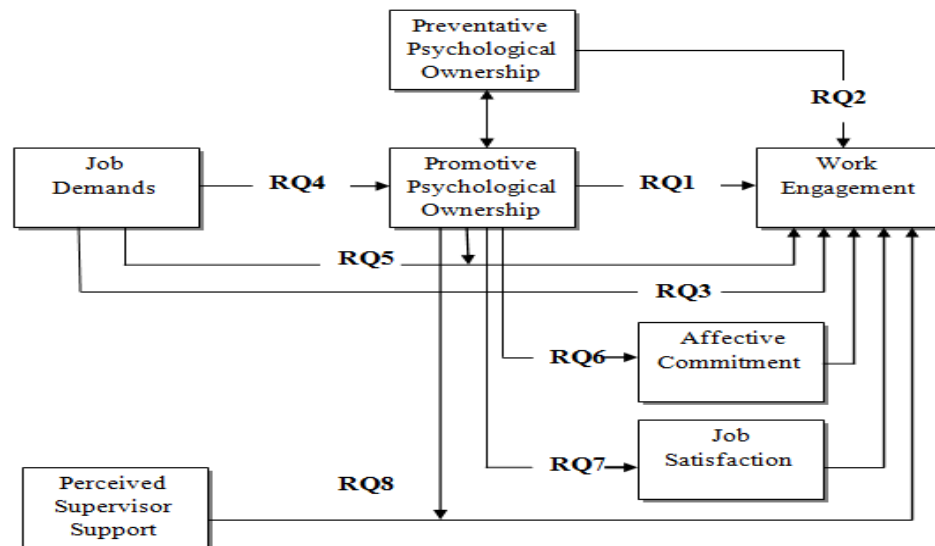
Promotive Psychological Ownership as a Mediator in the Relationship between Perceived Supervisor Support and Work Engagement

This thesis demonstrates for the first time the contribution of promotive psychological ownership in the relationship between perceived supervisor support and work engagement. This is supported through a novel combined application of the theoretical frameworks of SET and the JD-R Model as well as the generation of empirical evidence supporting this theoretical perspective. The argument, in short, is made in three stages. First, perceived supervisor support fulfills the employees' needs. The fulfilled needs of self-efficacy, self-identity, belongingness and accountability make employees more likely to embrace the organization or their work and develop feelings of ownership. Second, perceived supervisor support heightens employees' feeling of indebtedness through the norm of reciprocity, which is manifested in an increased feeling of promotive psychological ownership. Third, employees' satisfied needs as a result of perceived supervisor support are likely to enhance positive feelings. This positive feeling can increase work engagement. In other words, supervisor support may satisfy employees' needs for self-efficacy, self-identity, belongingness and accountability, which in turn foster the willingness to exert extra effort, thus facilitating work engagement.

3.2 Research Questions

Based on the above research objectives and the proposed research framework, the following research questions (RQs) derive. The linkages of these research questions with the research framework are presented in Figure 3-2.

Figure 3-2
Research Questions



Research Questions

1. What is the relationship between promotive psychological ownership and work engagement?
2. What is the relationship between preventative psychological ownership and work engagement?
3. What is the relationship between work engagement and job demands?
4. What is the relationship between promotive psychological ownership and job demands?
5. Does employee psychological ownership mediate the relationship between job demands and work engagement?
6. Does affective commitment mediate the relationship between employee psychological ownership and work engagement?
7. Does job satisfaction mediate the relationship between employee psychological ownership and work engagement?

8. Does promotive psychological ownership mediate the relationship between perceived supervisor support and work engagement?

3.3 Summary of Research Contributions

In conclusion, the research outlined by the framework above is firmly grounded in available research on both employee psychological ownership and work engagement and it describes an original and significant contribution to knowledge. This is the first study to examine the relationship between promotive psychological ownership and work engagement. In doing so, this research answers calls in the existing literature for further investigation of the consequences of psychological ownership (Avey et al., 2009; Dawkins et al., 2015) and the antecedents of work engagement (Mauno et al., 2007; Schaufeli, 2012; Xanthopoulou et al., 2007). Earlier literature shows that some of the dimensions of promotive psychological ownership are antecedents of work engagement, notably self-efficacy and belongingness, which is satisfied by social support and is a job resource (Xanthopoulou et al., 2007; Schaufeli and Bakker, 2004). However, those dimensions fail to be included in a bigger whole, for example in one single construct, serving as a clear route to work engagement. Therefore, considering self-efficacy, self-identity, belongingness, accountability as different sides of the same promotive psychological ownership prism will offer the prospect of not only a better insight into the newly introduced topic of psychological ownership, but more importantly will add value to the existing body of knowledge surrounding work engagement. This research extends the current literature by enhancing our understanding of and providing additional empirical justification for both work engagement and psychological ownership.

Second, this is the first study examining the relationship between territoriality, which represents the preventative type of psychological ownership, and work engagement. Territoriality (as discussed in section 2.3.2) is usually accompanied by a negative connotation. The model of work engagement has also been criticized for demonstrating an absolute positivity which does not correspond to the reality of the work environment (Purcell, 2014; George, 2011). This study addresses this criticism and in line with this suggests that

maybe there is a dark side to the concept of work engagement. Also, previous studies have primarily focused on examining work engagement in relation to positive attitudes such as job satisfaction (Shimazu et al., 2008; Hallberg and Schaufeli, 2006; Koyuncu et al., 2006; Schaufeli et al., 2001) and affective commitment (Hakanen et al., 2006; Richardson et al., 2006; Schaufeli and Bakker, 2004; Demerouti et al., 2001). Different to other studies, here it is suggested that territoriality, although negative, is a resource that can motivate employees to work harder and at the same time make them more protective towards their work. Besides, work engagement focuses narrowly on the work itself (Schaufeli et al., 2002) and as such it can be positively related to territoriality.

Third, this study also addresses the need to conduct research on employee psychological ownership and observe its distinctiveness from other “psychological state” constructs as recommended by Dawkins et al. (2015). This study seeks to demonstrate the discriminant validity of promotive psychological ownership, preventative psychological ownership (territoriality), work engagement, affective commitment and job satisfaction. This is important as psychological ownership is a relatively new construct compared to engagement, commitment and satisfaction, and the discriminant validity of employee psychological ownership has not yet been established. The discriminant validity of employee psychological ownership could be regarded as the keystone contribution of this thesis.

Fourth, this study attempts to address the need for more theory development around psychological ownership (Dawkins et al., 2015) by examining employee psychological ownership in the context of the JD-R Model and SET for the first time. Psychological ownership incorporates to the JD-R Model, for the first time in the literature, both job and personal resources in one single construct. Earlier literature suggests that personal resources partly mediate the relationship between job resources and work engagement and that this relationship is reciprocal (Xanthopoulou et al., 2009). Recent research invites researchers to examine the way personal resources are incorporated in the JD-R Model (Schaufeli and Taris, 2014). This study argues that psychological

ownership supports the mutual relationship between job and personal resources, which has been suggested in earlier literature but has not been tested empirically (Bakker and Demerouti, 2008). Therefore, employee psychological ownership by including both types of resources, represents the reciprocity which describes the JD-R Model and SET and suggests a new way of incorporating personal resources into the JD-R Model.

Fifth, this is the first study to argue that promotive psychological ownership, as a mixture of job and personal resources, is expected to mediate the relationship between job demands and work engagement. The fourth and fifth contributions extend the JD-R Model as this model had considered job resources and personal resources separately, and their separate impact on work engagement. Put differently, promotive psychological ownership is further established as a combination of job and personal resources when its mediating effect on the job demands-work engagement relationship is taken into consideration. The current literature suggests that job and personal resources gain their importance under the existence of job demands (Bakker and Demerouti, 2008; Hobfoll, 2002). Specifically, when job demands are high, the feeling of promotive psychological ownership, or else the four job and personal resources, will help employees to deal with demands, will reduce stress and the associated costs and will enable employees to control their environment.

Sixth, the relationship between promotive psychological ownership and work engagement is enriched by examining for the first time the mediating effect of affective commitment and job satisfaction. This will help to understand the pathway through which work engagement might be further increased in organizations and it is consistent with the social exchange perspective adopted in this thesis (see contribution 4). Specifically, when employees own these four job and personal resources (self-efficacy, self-identity, accountability and belongingness) they become more satisfied with their job and more affectively committed to their organization. Therefore, promotive psychological ownership will enhance feelings of job satisfaction and affective commitment and the employees will reciprocate with higher work engagement. In addition, supervisor support is expected to satisfy the employees' needs for self-efficacy,

self-identity, belongingness and accountability and employees are likely to reciprocate with work engagement. Therefore, employee psychological ownership, which is a relatively new concept, is introduced in SET and the JD-R Model and presents for the first time in the literature its theoretical and empirical linkages to other work-related constructs.

The next chapter, Chapter 4, will present this study's hypotheses as derived from the literature review and the theoretical framework that was discussed in this chapter.

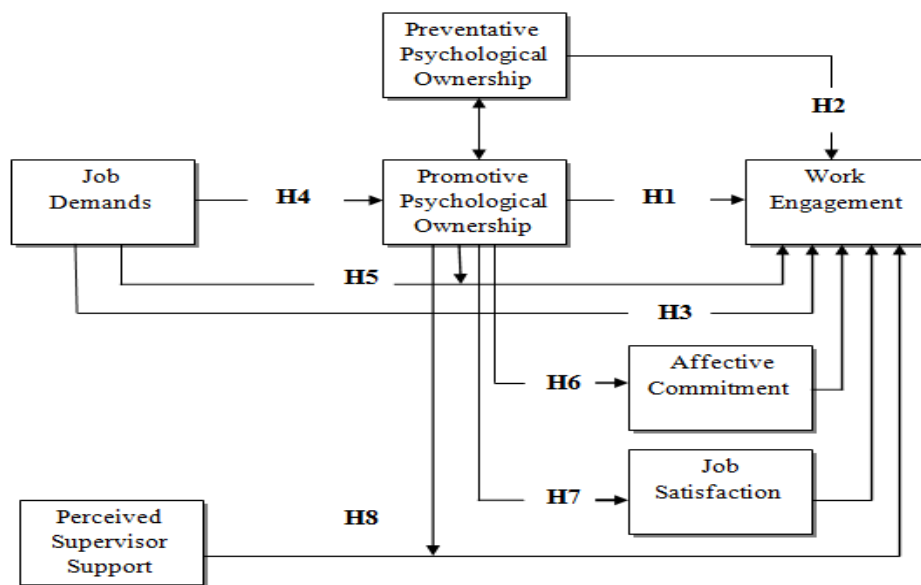
Chapter 4

Research Hypotheses

4.1 Summary of Research Hypotheses

Based on the literature discussed in Chapters 2 and 3 and the proposed theoretical framework of social exchange theory and the JD-R model, the following hypotheses derive. Figure 4-1 illustrates the research hypotheses.

Figure 4-1
Research Hypotheses



Summary of Research Hypotheses

1. Promotive psychological ownership is positively related to work engagement.
2. Preventative psychological ownership is positively related to work engagement.
3. Job demands are negatively related to work engagement.
4. Job demands are negatively related to promotive psychological ownership.
5. Promotive psychological ownership mediates the relationship between job demands and work engagement.

6. Affective commitment mediates the relationship between promotive psychological ownership and work engagement.
7. Job satisfaction mediates the relationship between promotive psychological ownership and work engagement.
8. Promotive psychological ownership mediates the relationship between perceived supervisor support and work engagement.
9. Promotive psychological ownership and preventative psychological ownership are distinct from work engagement, affective commitment and job satisfaction.

Each of these hypotheses will be developed in the remainder of this chapter.

4.2 Hypotheses Development

4.2.1 Promotive Psychological Ownership and Work Engagement

No previous work has taken the approach used in this thesis to examine the link between employee psychological ownership and work engagement. But it appears from the theoretical linkages between the two constructs that were discussed in Chapter 3 that such a relationship may exist. Employee psychological ownership concerns the responsibility employees feel when making decisions in favour of the organisation (Avey et al., 2012; 2009; O'Reilly, 2002; Parker et al., 1997). This responsibility signifies that the employees might invest themselves in the organisation and their work (vigor), become strongly involved in their work and have absolute concentration on their work and outcomes (absorption). In the engagement literature, responsibility is seen as a job resource (Schaufeli and Salanova, 2007). In other words, employees who feel responsible for their job or organisation are more willing to invest energy resources in their work roles (Christian et al., 2011; Bakker et al., 2006). Therefore, employee psychological ownership is seen as a resource that satisfies the employees' needs and makes employees respond with more positive attitudes such as work engagement.

It also appears that employee psychological ownership is related to a number of rights offered by the employer to the employees (Pierce et al., 1991). These

rights concern employee participation in the decision making processes, employee empowerment and job control or else the right to be responsible for one's job (Avey et al., 2009; Pierce et al., 2001; 1991). According to the JD-R Model, employee participation in the organisation's decision making process and job control (responsibility) are job resources (Demerouti et al., 2001). In that sense, employee psychological ownership could be considered a resource which protects the employees from experiencing burnout, motivates them to achieve their work goals and, thus, leads to work engagement (Schaufeli and Bakker, 2004).

In addition, Nuttin (1987) mentions that the feeling of psychological ownership creates positive attitudes towards the entire organisation. This positivity may generate stronger motives for the employees as far as their performance is concerned. As psychological ownership serves as a motivational factor and boosts employee performance, it can be viewed as a job resource which enables employees to better achieve their work goals (Demerouti et al., 2001). Nevertheless, despite the fact that the importance of psychological ownership is acknowledged, its relationship with other work-related constructs still needs to be examined (Pierce et al., 2004). This research moves in this direction by examining psychological ownership in relation to work engagement, within the JD-R model and SET.

The JD-R Model also states that positive self-evaluations, or else personal resources like self-efficacy, reflect the extent to which individuals are able to exercise control on the environment (Bakker and Demerouti, 2008). Similarly, as discussed by Furby (1980), the higher the interaction between possession, self-efficacy and control the more motivated individuals will be. Thus, employees who feel psychological ownership towards their organisation, or else are self-efficacious and feel they can control their organisational environment successfully, are likely to become motivated towards the achievement of their goals and work engagement is likely to occur.

Adopting the convention of formally stating both a null hypothesis to be tested and the associated alternative hypothesis, the preceding discussion leads to the construction of the following null and alternative hypotheses:

H1₀: Promotive psychological ownership is unrelated to work engagement.

H1₁: Promotive psychological ownership is positively related to work engagement.

4.2.2 Preventative Psychological Ownership (Territoriality) and Work Engagement

The preventative type of psychological ownership consists of the territoriality dimension. Territoriality (as discussed earlier in subsection 2.3) is usually accompanied by a negative connotation. Specifically, Brown et al. (2005) mention that when individuals develop feelings of psychological ownership towards their work or organisation they may want to maintain this ownership exclusively for themselves. In that sense, individuals may protect their work or organisation from either co-workers or competitors. However, this exclusive ownership does not signify that the employee will want to harm the organisation or colleagues.

Territoriality may promote positive organisational outcomes (Avey et al., 2009). Specifically, territoriality may increase performance and employees may become less willing to leave their organisation. If employees believe that this territoriality or protection towards their work or organisation seems right to them they will strive for success (Altman, 1975 cited in Avey et al., 2009). If an employee is over-protective towards the work or the organisation, this may encourage the employee to improve performance.

Within a social exchange perspective, when employees invest their mental and physical energy in their work and do not receive back what they expect, they are in danger of burning out (Schaufeli and Salanova, 2011). Territoriality can be seen as a personal resource that enables employees to exercise control over their environment and make them more resilient (Xanthopoulou et al., 2007a; Hobfoll, 2003). Therefore, employees may choose to withhold information from their colleagues (territoriality) to reduce stress, maintain their mental and physical health, control their environment and eventually stay engaged. Hence, the following pair of hypotheses is constructed:

H2₀: Preventative psychological ownership is unrelated to work engagement.

H2₁: Preventative psychological ownership is positively related to work engagement.

4.2.3 Job Demands and Work Engagement

Previous research offers inconsistent findings regarding the relationship between job demands and work engagement (Cole et al. 2012). Some studies show that there is no relationship between job demands and work engagement (Schaufeli et al., 2009; Schaufeli and Bakker, 2004). In contrast, Schaufeli et al. (2008) demonstrate that job demands are positively related to work engagement. Demerouti et al. (2010) suggest that the relationship between job demands and work engagement is not clear.

Xanthopoulou et al. (2007) in a study of 714 Dutch employees indicate that although two job demands (emotional dissonance, organisational changes) are significantly and negatively related to engagement, high workload is significantly positively related to engagement. Bakker et al. (2006) also demonstrate that physical workplace demands are negatively related to engagement, while work time pressure demands are positively related to engagement. Therefore, there are studies that show a positive relationship between job demands and work engagement, others that show a negative relationship between them and still others suggesting that job demands and work engagement are unrelated.

However, the above studies have some limitations. Although job demands can result in strain and burnout, the psychological responses to each demand differ (Crawford et al., 2010). Job demands do not necessarily generate negative effects on employees and/or the organisations although they can become negative when they require great effort from the employee (Schaufeli et al., 2009; Meijman and Mulder, 1998). Recent literature suggests a differentiation of job demands between hindrance stressors and challenge stressors (Crawford et al., 2010; Podsakoff et al., 2007).

Specifically, hindrance stressors are those job demands that entail unwanted or problematic impediments that make it harder for individuals to achieve their

goals (Cavanaugh et al., 2000). Hence, job demands that come under hindrances are considered bad. Examples of hindrance stressors include role and interpersonal conflict, role overload, role ambiguity/clarity, role interference, organisational politics, hassles, resource inadequacy and supervisor-related stress (Demerouti and Bakker, 2011; LePine et al., 2005; Cavanaugh et al., 2000). Emotional demands and work-home interaction are also viewed as hindrances (Van den Broeck et al., 2010).

By contrast, challenge stressors represent the bright side of job demands and are supposed to promote personal growth and goal achievement (Podsakoff et al., 2007). In that sense, challenge stressors are welcomed by employees since they challenge them to develop themselves and enhance their creative self (Podsakoff et al., 2007). It could also be claimed that challenge stressors are conceptually closer to the definition of job resources (Demerouti and Bakker, 2011). Examples of challenge stressors include high levels of workload, time pressure/urgency, job scope, responsibility, pressure, cognitive demands and job/role demands (Van den Broeck et al., 2010; LePine et al., 2005; Cavanaugh et al., 2000).

This differentiation between hindrance and challenge stressors is perhaps not valid for every job (Demerouti and Bakker, 2011). However, it is based on the fact that even if both types of demands are positively associated with some kind of strain (LePine et al., 2005; LePine et al., 2004), the behavioural outcomes from each type are actually different in nature (Podsakoff et al., 2007; Boswell et al., 2004). In line with previous research, this study supports that challenging job demands may affect the employees' attitudes positively (McCauley et al., 1994; McCall et al., 1988; Selye, 1978). In that sense, stressful tasks and challenging demands may actually be desirable features of work life and may enhance the employees' well-being and their attitudinal positivity.

Van den Broeck et al. (2010) contribute further to this knowledge by demonstrating that job hindrances and job challenges actually differ in statistical terms. Van den Broeck et al. (2010) also find that job hindrances are correlated positively and significantly with exhaustion and negatively and

significantly with vigor. Job challenges also correlated positively and significantly with vigor; no relationship is indicated between exhaustion and job challenges (Van den Broeck et al., 2010).

Further, Cavanough et al. (2000) report that challenge stressors correlate positively with job satisfaction and negatively with job search behaviors. Hindrance stressors correlate negatively with job satisfaction and positively with job search behaviors. Hindrance stressors are positively related to turnover, while challenge stressors are not (Cavanough et al., 2000). The hindrance-challenge framework is also supported by LePine et al. (2005). Particularly, the authors confirm this differentiation at the individual level and support that hindrance stressors are negatively related to performance; conversely challenge stressors are positively related to better performance (LePine et al., 2005).

Podsakoff et al. (2007) further indicate that hindrance stressors are associated negatively with job satisfaction and organisational commitment and positively with turnover intentions, turnover and withdrawal behavior. Challenge stressors are associated positively with satisfaction and organisational commitment and negatively with turnover intentions and turnover (Podsakoff et al., 2007). However, more empirical knowledge is required with regard to the discriminant validity between job hindrances and challenges and evidence from more sectors and diverse working environments is essential (Demerouti and Bakker, 2011). Therefore, this thesis follows this differentiation between hindrance and challenge stressors in constructing two pairs of null and alternative hypotheses:

H3.1₀: Hindrance stressors are unrelated to work engagement.

H3.1₁: Hindrance stressors are negatively related to work engagement.

H3.2₀: Challenge stressors are unrelated to work engagement.

H3.2₁: Challenge stressors are positively related to work engagement.

4.2.4 Job Demands and Promotive Psychological Ownership

In general, job demands and resources are negatively related, since job demands such as high work pressure and emotionally demanding interactions with clients may preclude the mobilization of job resources (Bakker et al., 2005; Bakker et al., 2003; Demerouti et al., 2000, 2001). However, as explained earlier (section 4.2.2) recent findings suggest that job demands are differentiated between hindrance and challenge stressors. Therefore, it would be interesting to observe the relationship between hindrance and challenge stressors and job resources.

Although there is no research, to the author's knowledge, examining the relationship between job demands and promotive psychological ownership, previous research on the JD-R model will inform this relationship. This is the first time that employee psychological ownership is considered within the JD-R model and also the first time that psychological ownership is seen as a combination of job and personal resources. Therefore, the literature around job resources and job demands as well as theoretical propositions from the COR theory will be used (Hobfoll, 2002).

Van den Broeck et al. (2010) show that hindrance stressors are negatively related to job resources. This relationship can be explained through the COR theory (Hobfoll, 2002). Specifically, when employees deal with demanding situations, they will have to make use of their resources so as to prevent loss. However, when employees have available only a small number of resources their demands are expected to rise. Put differently, an employee who has to serve a demanding customer will make use of the support provided by supervisors and co-workers. This might burn up the job resource of support and make him more vulnerable to the demand, or else the demanding customer. Therefore, according to COR theory (Hobfoll, 2002) hindrance stressors are expected to be negatively related to job resources. Van den Broeck et al. (2010) encourage future research to further examine the relationship between hindrance stressors and job resources. This thesis provides an opportunity to address this call for research and leads to the following null and alternative hypotheses:

H4.1₀: Hindrance stressors are unrelated to promotive psychological ownership.

H4.1₁: Hindrance stressors are negatively related to promotive psychological ownership.

Van den Broeck et al. (2010) show that challenge stressors are positively related to job resources. In fact, Podsakoff et al. (2007) define challenge stressors as those characteristics that can promote personal growth and development. This definition is close to the definition given for job resources, where job resources enhance personal growth and development (Demerouti et al., 2001). In a similar vein, Demerouti and Bakker (2011) suggest that challenge stressors are conceptually close to job resources. Thus, job resources and challenge stressors are conceptually close and they are expected to be positively related. The following pair of hypotheses is constructed:

H4.2₀: Challenge stressors are unrelated to promotive psychological ownership.

H4.2₁: Challenge stressors are positively related to promotive psychological ownership.

4.2.5 Promotive Psychological Ownership as a Mediator in the Job Demands - Work Engagement Relationship

According to Bakker and Demerouti (2008) there are two basic assumptions in the JD-R model. First, the JD-R model describes a motivational process through which employees make use of their resources so as to become engaged. Second, these resources become more important under the existence of job demands (e.g. workload, emotional demands, mental demands) (Bakker and Demerouti, 2008). This second point draws from COR theory (Hobfoll, 2002). Specifically, Hobfoll (2002) suggests that job resources become more salient when employees have to deal with job demands. This means that job resources gain their motivational power when employees are confronted with job demands because at this point resources can help employees to handle demands and enable goal accomplishment (Hobfoll, 2002).

This earlier literature suggests that the appraisal of job demands and job resources takes place simultaneously and that job demand and job resources should be examined relative to each other (Hu et al., 2013). For example, an employee might have to deal with workload which is stressful, but then will also have to evaluate the available resources (e.g. support from co-workers). If these resources are sufficient to deal with workload then the employee will use these resources, or else support from co-workers, to finish the work, achieve personal goals and eventually stay engaged. In other words, people become tired by their work activities, but their resources provide them with the energy to deal with them (Bakker et al., 2004). Therefore, in the face of job demands, the employee will use job resources to stay engaged.

Furthermore, Bakker, Demerouti, Taris et al. (2003) show that the impact of job demands on feelings of exhaustion is stronger when job resources are not enough. Similarly, Bakker et al. (2005) indicate that job demands influence burnout only when job resources are not sufficient to deal with demands. This means that when job resources are sufficient, employees will be able to deal with job demands. In line with the above, Crawford et al. (2010) suggest that in situations when demands are high, the strain of dealing with those demands may be reduced by making use of job resources. Therefore, with the existence of job demands, employees can use their resources to recover from demands (Maslach and Leiter, 2008) and stay engaged.

In addition, when an employee is self-efficacious, personally identifies with the work or the organisation, feels a sense of belongingness and considers it right to hold himself and others accountable for their influence on their work or organisation may be more prepared to deal with demanding customers or workload. As a result, the employee may be more effective in dealing with the demanding aspects of the work and feel more engaged. In that sense, promotive psychological ownership, which includes both job and personal resources, is expected to mediate the relationship between job demands and work engagement. Therefore, employees who develop feelings of promotive psychological ownership are expected to be better able to deal with job

demands and will reciprocate with work engagement. Therefore, the following pair of hypotheses is constructed:

H5₀: Promotive psychological ownership does not mediate the relationship between job demands and work engagement.

H5₁: Promotive psychological ownership mediates the relationship between job demands and work engagement.

4.2.6 Affective Commitment as a Mediator in the Promotive Psychological Ownership - Work Engagement Relationship

Previous research has shown that affective commitment is positively associated with job satisfaction (Meyer et al., 2002), life satisfaction (Zickar et al., 2004) and positive affect (Thoresen et al., 2003), while it is negatively related to emotional exhaustion (Lee and Ashforth, 1996), stress and work-family conflict (Meyer et al., 2002). Affective commitment is seen as an antecedent of employee well-being (Meyer et al., 2002). Engagement is also closely related to employee well-being (Fisher, 2010), thus the same positive relationship is anticipated for affective commitment and engagement.

Previous research indicates that affective commitment is a positive outcome of work engagement (Hakanen et al., 2006; Richardson et al., 2006; Schaufeli and Bakker, 2004; Demerouti et al., 2001). However, recent research shows that affective commitment is an antecedent of work engagement. In line with this, Shuck et al. (2011) show that the relationship between affective commitment and intention to quit is mediated by employee engagement (Shuck et al., 2011). Similarly, Yalabik et al. (2013) find that work engagement mediates the relationship from affective commitment to job performance and intention to quit. In other words, employees who have an affective attachment to the organisation reciprocate through increased work engagement.

In addition, Mowday et al. (1982) suggest that the antecedents of affective commitment fall into four categories: personal characteristics, job characteristics, work experiences and structural characteristics. Further, Meyer

and Allen (1991; 1987) suggest that work experience antecedents provide the strongest relationship with affective commitment. Specifically, when these work experiences fulfill the employees' psychological needs they enable employees to feel comfortable in their work environment and competent about their work-role. Consequently, employees develop a strong affective attachment to the organisation (Meyer et al., 1993; Allen and Meyer, 1990; Meyer and Allen, 1987). Promotive psychological ownership consists of four dimensions or needs, self-efficacy, self-identity, belongingness and accountability, which are satisfied under the existence of psychological ownership feelings (Avey et al., 2009; Pierce et al., 2001; Dittmar, 1992; Hackman and Oldham, 1975). Therefore, when these four needs are satisfied, employees will develop a feeling of emotional attachment to the organisation and they will reciprocate with work engagement.

On the basis of the reciprocity norm, promotive psychological ownership makes employees care about their organisation and promote the organisation's interests (Avey et al., 2012; 2009; O'Reilly, 2002; Parker et al., 1997). Employees could fulfill this psychological ownership through affective commitment (Eisenberger et al., 1986; Mowday et al., 1982). Promotive psychological ownership also increases affective commitment by fulfilling the needs of self-efficacy, self-identity, belongingness and accountability. Put differently, employees who have at their disposal these four job and personal resources, satisfy these needs and are likely to develop an emotional attachment to the organisation in which they are offered these resources, or where their needs are satisfied. Thus, employees who have these needs fulfilled have a strong affective commitment and want to maintain membership with the organisation (Meyer et al., 1993).

Van Dyne and Pierce (2004) and Liu et al. (2012) illustrate empirically that employee psychological ownership is a positive and significant antecedent of affective commitment. Mayhew et al. (2007) suggest that according to Meyer and Allen (1991)'s research, affective commitment is seen as the consequence of employee psychological ownership, since employees who feel ownership towards their organisation become more willing to maintain membership because of their emotional attachment to it. The authors also illustrate that

organisation-based psychological ownership is related to affective commitment (Mayhew et al., 2007). Druskat and Pescosolido (2002) suggest that a reduction in team psychological ownership leads to reduced levels of organisational commitment (indirect relationship). Mayhew et al. (2007) further indicate that psychological ownership is more related to affective organisational commitment than to continuance organisational commitment based on the idea that psychological ownership represents a feeling of possession which is closer to the emotional costs of leaving the organisation (affective) and not to financial costs (continuance commitment). The same idea is also suggested in earlier literature (Van Dyne and Pierce, 2004; Vandewalle et al., 1995).

In support of this idea, Vandewalle et al. (1995) show a positive and significant relationship between organisation-based psychological ownership and affective organisational commitment. Moreover, O'Driscoll et al. (2006) found a positive relationship between psychological ownership and affective organisational commitment. To be more specific, the authors indicate that organisation-based psychological ownership mediates the relationship between work environment structure and affective organisational commitment (O'Driscoll et al., 2006). Florkowski (1987) and Pierce et al. (1991) also view organisational commitment as a consequence of psychological ownership. Therefore, psychological ownership as a mix of job and personal resources will lead to more positive attitudes such as affective commitment and work engagement.

In addition, individuals who experience emotional attachment to their organisation due to high psychological ownership and the four valuable job and personal resources included in it, are likely to face the job demands of their work environment, will be better able to cope with stress and exhaustion and will become more engaged in their job. Employees, by enjoying the resources and their organisational membership, can function at a minimal cost of energy and without fearing a loss of resources which would translate into greater work engagement (Hobfoll, 2002). This is also consistent with the idea that employee psychological ownership fosters the resource availability and

the development of affective commitment mindsets which influence work engagement. Therefore, this thesis hypothesizes:

H6₀: Affective commitment does not mediate the relationship between promotive psychological ownership and work engagement.

H6₁: Affective commitment mediates the relationship between promotive psychological ownership and work engagement.

4.2.7 Job Satisfaction as a Mediator in the Promotive Psychological Ownership - Work Engagement Relationship

Numerous studies have indicated a positive relationship between job satisfaction and work engagement (Shimazu et al., 2008; Hallberg and Schaufeli, 2006; Koyuncu et al., 2006; Schaufeli et al., 2001). However, there are still opposite views regarding the causal ordering of the relationship between job satisfaction and work engagement. Therefore, the current literature invites researchers to further explore this relationship and indicate whether job satisfaction should be treated either as an antecedent or an outcome of work engagement (Schaufeli and Bakker, 2010; Bakker et al., 2008; Shimazu et al., 2008; Mauno et al., 2007).

Some studies view job satisfaction as an outcome of work engagement (Karatepe and Aga, 2012; Vecina et al., 2012, Avery et al., 2007, Saks, 2006). Specifically, Saks (2006) suggests that job satisfaction is an outcome of employee engagement, which in his study is distinguished by job and organisation engagement. However, Saks (2006)'s study is cross-sectional and, hence, it cannot provide safe conclusions about the causal ordering of the relationship between job satisfaction and engagement.

Recent research mentions that job satisfaction is an antecedent of work engagement (Yalabik et al., 2013; Simpson, 2009). Also, burnout, which is considered the antipode of work engagement, is an outcome of job satisfaction (Lee and Ashforth, 1996; Maslach et al., 1996), so the same relationship is anticipated for job satisfaction and work engagement. This thesis adopts the second view which considers job satisfaction as an antecedent of work engagement because it also complies with the social exchange theory, which is

the theoretical framework of the present thesis. In other words, employee satisfaction derives from the exchange relationship between the organisation and the employee (Conway and Briner, 2005; Zhao et al., 2007). Employees who feel valued and satisfied with the resources they have at their disposal, are likely to reciprocate the organisation with more important outcomes, such as work engagement (Cropanzano and Mitchell, 2005; Eisenberger et al., 1986). Therefore, the positive evaluation employees make about their job is likely to create feelings that reciprocate with work engagement.

Further, Kahn (1990) theorises the relationship between job satisfaction and engagement (Rich et al., 2010). Engagement is not merely a positive evaluation about the job or just cognitive attention to the job. Engaged employees need to invest in their job simultaneously in a cognitive, emotional and physical manner so that employees will be actively and totally involved in their work role (Kahn, 1990). Hence, engagement encompasses a more complex relationship between the individual and the work and takes job satisfaction one step further by transforming employees to active players in their work role.

In addition, job satisfaction is an emotional evaluation of the job (Macey and Schneider, 2008) which leads to the employees' activation, represented by engagement (Salanova et al., 2011; Macey and Schneider, 2008). Job satisfaction represents an employee's positive evaluation about the job but it does not necessarily require action (Harrison et al., 2006). Specifically, job satisfaction represents satiation while work engagement represents activation (Schaufeli and Bakker, 2010; Macey and Schneider, 2008). Hence, satisfaction represents the extent to which employees fulfill their needs and this satisfaction will enable them to become engaged in their work role.

Judge et al. (2005; 1998) suggest that positive self-evaluations are strongly related to job satisfaction. Specifically, the higher the personal resources the more positively individuals regard themselves, or else the more motivated they are to to accomplish their work goals (Judge et al., 2005). Consequently, this abundance of resources and motivation to pursue their goals results in higher levels of satisfaction (Luthans and Youssef, 2007). Therefore, promotive

psychological ownership, as a combination of job and personal resources, will boost the employees' satisfaction; so promotive psychological ownership is likely to be positively related to job satisfaction.

Karasek and Theorell (1990) discuss the Demand-Control Model where job control moderates the relationship between job demands and job responses (Janssen, 2001). They explain that job and personal resources will help employees to deal better with job demands and then job satisfaction is likely to increase. In addition, research also indicates the positive relationship between resources and job satisfaction as it is suggested that an increase in resources such as control, support and rewards is likely to increase job satisfaction (Lewig and Dollard, 2003). Thus, promotive psychological ownership, as a mixture of job and personal resources, will relate positively to job satisfaction.

Moreover, in the literature, employee psychological ownership is seen as an antecedent of job satisfaction. Heider (1958) suggests that the employees' feeling of ownership is related to their liking of the organisation. Likewise, individuals receive more satisfaction about the things they perceive as their own (Beggan, 1992; Nuttin, 1987). Van Dyne and Pierce (2004) show empirically that employee psychological ownership is a positive and significant antecedent of job satisfaction. Organisation-based psychological ownership is also distinguishable from job satisfaction. Mayhew et al. (2007) illustrate that both job and organisation-based psychological ownership are related to job satisfaction. Put differently, promotive psychological ownership as a mix of job and personal resources will lead to more positive attitudes such as job satisfaction and work engagement.

Employees who have at their disposal job and personal resources, or else, feel they own their organisation or work psychologically, are likely to be more satisfied with their job, deal better with demands and exhaustion and will become more engaged in their job. Individuals who own resources will be able to generate and maintain these resources which would lead to higher levels of work engagement (Hobfoll, 2002). This is in line with the idea that promotive psychological ownership enhances the appearance of job and personal resources and the creation of feelings of satisfaction which are related to work

engagement. Therefore, the following null and alternative hypotheses are constructed:

H7₀: Job satisfaction does not mediate the relationship between promotive psychological ownership and work engagement.

H7₁: Job satisfaction mediates the relationship between promotive psychological ownership and work engagement.

4.2.8 Promotive Psychological Ownership as a Mediator in the Perceived Supervisor Support - Work Engagement Relationship

Numerous studies have indicated a positive relationship between perceived supervisor support and work engagement (James et al., 2011; Siu et al., 2010; Richman et al., 2008; Schaufeli et al., 2008; Bakker and Demerouti, 2007; Bakker et al., 2005; Salanova et al., 2005). Supervisor support, within the JD-R model, is seen as a job resource that will increase engagement (Hakanen et al., 2006). Supervisor support is seen as a characteristic of the work environment that provides a social, psychological and tangible resource that will influence the psychological state of engagement (Swanberg et al., 2011). Thus, supervisor support will encourage employees to exert extra effort, strive for success and become engaged.

Furthermore, Leiter and Maslach (1988) view supervisor support as part of the social support that employees can receive in an organisation. Supervisor support can entail praise, guidance and promotions (Leiter and Maslach, 1988: 298). In addition, perceived supervisor support can increase the employee's capacity to deal with exhaustion and stress (Maslach et al., 2001) and it is positively related to personal accomplishment (Leiter and Maslach, 1988). Since perceived supervisor support can reduce exhaustion, the opposite relationship is expected for perceived supervisor support and work engagement. Thus, perceived supervisor support is a positive resource that makes employees more resilient to deal with difficulties; it increases the sense of personal accomplishment and engagement is likely to occur.

Kahn (1990) also suggests that social support is related to psychological safety which subsequently leads to engagement. Specifically, employees who receive support from their supervisors have flexibility to take risks and perhaps fail without fearing negative consequences (Kahn, 1990). May et al. (2004), drawing from Kahn (1990), find that supervisor support which is closely related to psychological safety will make employees become more willing to take risks, which results in engagement in their work roles. Moussa (2013) also views perceived supervisor support as a positive determinant of engagement. Harter et al. (2002) mention that among other factors, supervisor support is an important factor influencing engagement. Similarly, Crawford et al. (2010) in their meta-analysis test a number of resources in relation to engagement and they show that supervisor support is positively related to engagement.

To the author's knowledge there is no paper examining the relationship between perceived supervisor support and employee psychological ownership. Dawkins et al. (2015) confirm that future research can provide more insight into the factors that influence psychological ownership. In line with this, this research addressed this need by suggesting that psychological ownership and perceived supervisor support are two constructs that can usefully be studied together. Specifically, as explained earlier (section 2.3), the factors leading to employee psychological ownership are investment in the target of ownership, knowledge of the target and control of this target (Pierce et al., 2001). Cole et al. (2006) suggest that employees consider their supervisors responsible for providing them with information and support because supervisors are perceived to be the principal agents of the organisation. Hence, the attribution that employees will be supported and cared for by their supervisor and will be offered information is likely to result in employees feeling more positive, less cynical (Cole et al., 2006) and eventually more engaged.

Furthermore, supervisor support can be expressed in terms of answering employees' questions, offering suggestions and guidance and listening to concerns or complaints (Ng and Sorensen, 2008). Thus, when employees are invited to evaluate the level of their psychological ownership they can recall

incidents where supervisors provided supportive actions. In other words, employees will look for incidents where their supervisor provided information, control and encouraged employees to invest in their work or organisation. In that sense, perceived supervisor support is expected to increase feelings of promotive psychological ownership.

In addition, support provided by supervisors may help to satisfy employees' needs of self-efficacy, self-identity, belongingness and accountability. Weiss and Cropanzano (1996) suggest that low supervisor support can threaten employees' needs which will then lead to negative emotions. Rousseau (1996) also mentions that low supervisor support is likely to lead to a decline in the quantity and quality of information made available to employees. In line with this, supervisor support is likely to relate to an increase in the quantity and quality of information offered to employees which will make employees experience feelings of psychological ownership. In addition, Kavanagh et al. (2007) and Keeping and Levy (2000) suggest that supportive supervisors can make employees feel more control and ownership over their goals. Therefore, supervisor support can offer employees more information and control over their target of ownership, satisfy the four needs under the construct of promotive psychological ownership and make employees reciprocate with more positive attitudes such as work engagement. Thus the following hypotheses are constructed:

H8₀: Promotive psychological ownership does not mediate the relationship between perceived supervisor support and work engagement.

H8₁: Promotive psychological ownership mediates the relationship between perceived supervisor support and work engagement.

4.2.9 The Distinctiveness between Promotive Psychological Ownership, Preventative Psychological Ownership, Work Engagement, Affective Commitment and Job Satisfaction

As discussed in the literature review (sections 2.5; 2.6), there may be a conceptual overlap between the two types of employee psychological ownership (promotive and preventative), work engagement, affective commitment and job satisfaction. However, earlier research indicates that these concepts are conceptually distinct. Specifically, as discussed in section 2.3, employee psychological ownership consists of two distinct types, promotive and preventative psychological ownership (Avey et al., 2009). This distinction is based on Higgins (1998; 1997)'s Regulatory Focus Theory.

Employee psychological ownership is also distinct from other work-related concepts because psychological ownership is related to a set of rights and responsibilities as well as reflecting a sense of psychological possession (Pierce et al., 2001). Specifically, employee psychological ownership is about the psychological possessiveness employees feel towards their job, while work engagement is about the willingness to exert extra effort. In addition, Harrison et al. (2006) mention that commitment and job satisfaction are attitudes towards the organisation or the job but they do not require action like engagement does. Similarly, Bakker (2011) suggests that job satisfaction is a more passive attitude than engagement, which includes high work pleasure (dedication) and high activation (vigor, absorption). This means that employee psychological ownership, job satisfaction and affective commitment are more passive attitudes that are, consequently, related to work engagement, or else will make employees invest more in their work and will make them more energetic towards the pursuit of their work goals.

Furthermore, employee psychological ownership is different from commitment because these concepts build on different theoretical foundations. Organisational commitment is grounded on social membership scholarship and psychological ownership is grounded on the theory of psychological possession (Pierce et al., 2001). Employee psychological ownership, or else the possessive feeling towards the job, is also different from job satisfaction,

or else the positive or negative evaluative judgment of the job (Van Dyne and Pierce, 2004).

Affective commitment is also different from job satisfaction. Specifically, affective commitment reflects an emotional attachment to the organisation and it is more stable than job satisfaction (Porter et al., 1974). Further, affective commitment reflects the relationship between the employee and the organisation, whereas, job satisfaction is focused on the job (Williams and Hazer, 1986; Mowday et al., 1982). Therefore, the following hypotheses are constructed:

H9₀: Promotive psychological ownership, preventative psychological ownership, work engagement, affective commitment and job satisfaction are indistinct.

H9₁: Promotive psychological ownership, preventative psychological ownership, work engagement, affective commitment and job satisfaction are distinct.

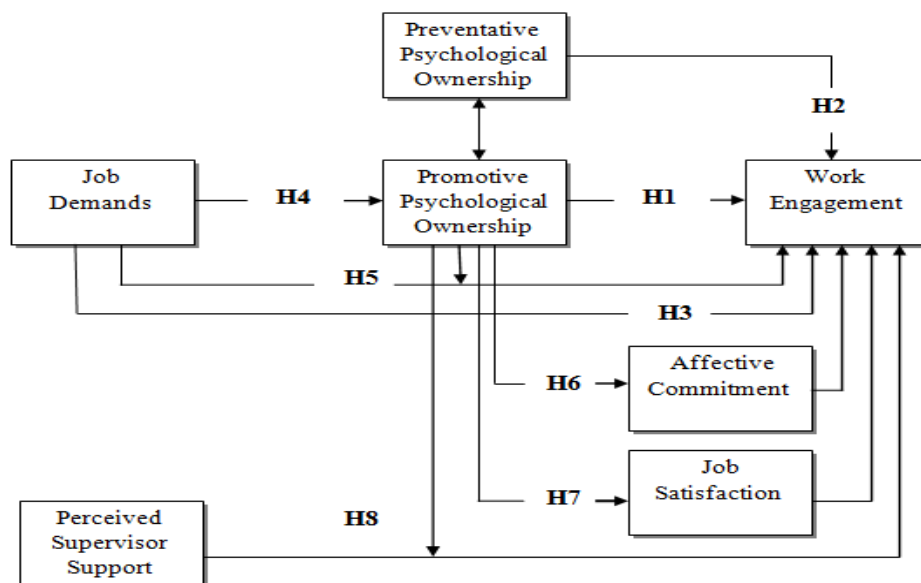
Having presented and discussed the research hypotheses, the research approach and methods adopted for the implementation of this study will be presented next.

Chapter 5

Research Methodology

This chapter describes the way in which this study was operationalized so as to answer the research hypotheses set out in chapter 4 (see figure below). The present researcher takes a positivist paradigm, whereby a deductive approach and a quantitative research strategy are adopted to guide the design of the research and the methods for data collection. Survey research was employed through a self-completion questionnaire to collect data from service employees working in a public organisation in Greece. In the following sections, justifications are provided with regard to the chosen research paradigm, research strategy, research design and methods, operationalization of the survey measures, ways to observe if the data is biased (common method variance) and the analytical strategy.

Figure 5-1
Research Hypotheses



5.1 Research Paradigm

Gibson (2005) argues that the idea of ‘paradigm’ signals a common way of thinking and conducting scientific research. This commonality brings together a group of theorists who have adopted an approach to social theory within the grounds of the same rationality (Gibson, 2005). The latter consequently leads to the evolution of scientific communities that promote the pursuit of common goals (Kuhn, 2012). Similarly, Denzin and Lincoln (2003) claim that research is guided by a set of beliefs and feelings about the world which lead the way research is practised. These references create an interpretative framework, a paradigm, or a “basic set of beliefs that guide action” (Guba, 1990: 17).

In other words, the chosen paradigm guides researchers in terms of what should be studied, how research should be conducted and the way scientific results should be interpreted (Bryman and Bell, 2007). However, the notion of paradigm does not imply an absolute homogeneity of thought; rather it supports the debateable nature of science and favours the exchange of differing perceptions and standpoints among theorists, within the same theoretical boundaries (Gibson, 2005). The three main features of paradigm distinctiveness are summarized in the scope of reality (ontology), the relationship between the researcher and what is being researched (epistemology) and the process of acquiring knowledge about the world (methodology).

5.1.1 Positivism

The basic aspects of the positivist paradigm are summarized under the scope of the realist ontology and the representational epistemology. The realist ontology assumes that there is an objective reality whereas the representational epistemology dictates that humans are able to reach and observe this objective reality (Descartes, 1998). In other words, ontologically, the reality pervading the positivistic research is external and objective; the epistemological assumption of the positivist researcher is that the significance of this kind of research derives from observations of this external reality (Easterby-Smith et al., 2002).

The positivistic researcher accepts the assumption of being an objective analyst, making detached interpretations about the data independent of informants. Thus, a deductive approach to measure the concepts being studied by quantitative data is emphasized and verification of hypotheses are subjected to empirical tests so as to prove or disprove the proposition under cautiously controlled conditions (Bryman, 2004; Lincoln and Guba, 2003; Easterby-Smith et al., 2002; Guba, 1990). The positivist research methodology attempts to crystallize real events by eliminating the complex nature of the external world.

5.1.2 The Positivistic Paradigm Research and Research Strategy

To address the research questions in this study, a positivistic paradigm was assumed so as to undertake a deductive approach to test the hypothesized relationships underlying the linkages between the main study variables. Accordingly, a quantitative research strategy was adopted to provide a way of quantitatively linking theoretical categories or concepts with empirical research and an objectivist standpoint for testing theory (Bryman and Bell, 2007). The findings with regard to the research questions in this research addressed the objective reality or the pattern of employee psychological ownership-work engagement relationship existing in the participating organisation. The research design adopted for this study is explained next.

5.2 Research Design

5.2.1 The Survey Research

The ontological and epistemological considerations, as well as the decision regarding the research strategy, as explained in the previous section, influence the design of research, which provides a framework for the data collection and analysis in ways that are most suited to meeting the research aims of the present study. A number of research designs have been identified as appropriate for use in quantitative research, including: experimental design, survey research and the case study (Bryman and Bell, 2007; Easterby-Smith et al., 2002). The discussion of each of these is presented below.

The purpose of experimental design research is to examine the experimental manipulation of an independent variable by comparing two different groups: one that received the treatment (the experimental/treatment group) and the other that did not receive the treatment (the control group). The dependent variable is measured before and after the experimental manipulation. Any difference noted between the two groups is attributed to manipulation of the independent variable. Moreover, the assignment of groups takes place in a quite random way. The latter provides the researcher with the possibility to reach safer conclusions as far as any difference between the two groups is concerned. The experimental design is rarely used in business and management research mostly because it is hard to retain control under conditions that may be influenced by subjective organisational factors such as organisational behaviour and work attitudes (Bryman and Bell, 2007). In relation to the current study, the research framework is based on a causal modelling process (Van de Van, 2007) in which employee psychological ownership is hypothesized to have an impact on work engagement through a number of job resources, job demands and work-related attitudes.

Survey research is widely used in social sciences (Bryman, 2004) and its popularity lays on a highly structured approach to data collection. Survey research becomes more efficient if the researcher is aware of what kind of information/data is required so as to reach conclusions concerning the phenomena of interest (Bryman, 2004; Robson, 2002). It is also related to

standardized measurement which is able to ensure that comparable information is made available by the respondents (Fowler, 2009). Hence, there appears a degree of consistency in terms of reliability of the measure, and measurement validity, which implies that the measure being devised for a concept really does reflect the right conceptualization of the concept and there is more confidence about the results that have been measured (Bryman and Bell, 2007; Bryman, 2004). That said, there is the need for researchers to obtain a deep understanding of the measurements associated with the issues of interest and they are encouraged to make use of well-established measures to improve the measure validity. In addition to this, a pilot study which will assess the comprehension and the behaviour of the items representing the concepts of interest is crucial for improving the stability of the measure (Bryman and Bell, 2007) and for raising the levels of confidence with which the researcher can generalize study outcomes to a wider population.

Survey research can also be divided into two sub-categories: cross-sectional and longitudinal design. Cross-sectional design concerns a survey in which the collection of all the data in relation to the study takes place at a single point in time; longitudinal design involves a process whereby the sample is surveyed on at least one further occasion/wave and usually before/after a change or an event that may alter or influence the participants' answers (Bryman and Bell, 2007). Consequently, by using cross-sectional survey data it is only possible to examine the pattern of association among the studied variables at one time and generalization of the results should be treated with caution; meanwhile, extending the research to make the data longitudinal allows for observation of changes and causal influences regarding the variables over time.

As far as the case study design approach to quantitative research strategy is concerned, Bryman and Bell (2007) suggest that it is similar to survey design although the focus changes. In the case study, the case, either in the form of organisation, event, people or location, is the object of interest. Researchers undertaking this approach usually aim to provide an in-depth illustration and analysis of the unique characteristics of the case in order to address the research questions, whereas, the main focus of the survey research approach is to examine the causal relationships of the study variables.

Specifically, the present study does not aspire to observe the unique features of the Greek public sector. The latter was the setting for investigating the employee psychological ownership-work engagement relationship within the JD-R theoretical framework. The aim here was to explore this relationship using a sample taken from a public organisation. Therefore, the present researcher deemed it most appropriate to adopt the survey research design instead of focusing on the case study approach. That said, the researcher remained aware of the potential drawbacks of adopting this approach, regarding in particular the reliability and validity of the measures. Nevertheless, most of the constructs employed in this study have well-established measures that have been studied in earlier research (to be explained in subsection 5.3.1) so some arising issues concerning the validity of these could be ruled out. Further, to ensure the robust reliability of the measures in the current study, a pilot study was conducted (to be presented in Chapter 6) and the data collection procedures were cautiously organised to encourage a high response rate (to be presented in sections 6.1 and 7.2).

5.2.2 Research Techniques: The Self-Completion Questionnaire Survey

This section discusses which data collection techniques were selected as being the most appropriate for this research endeavour. In general, self-completion questionnaire surveys and interview-based surveys are the two methods that have been widely used in designing survey research (Bryman and Bell, 2007; Robson, 2002; Czaja and Blair, 1996). The difference underlying these two techniques is the fact that with a self-completion questionnaire respondents answer the questions by completing the questionnaire themselves; for the second type, an interviewer presents the questions to the respondents, either face-to-face or by phone, and records their answers.

To begin with, the cost of administering the self-administered questionnaire is much lower compared to an interview-based survey. Specifically, the self-completion questionnaire entails sending the questionnaire to the respondents, usually by post and accompanied by a well-constructed cover letter and a stamped return envelope. However, the interview-based survey can involve

more time and higher travel expenses for the interviewer or hefty charges for extensive phone calls. Further, the amount of time required to conduct a postal survey is fairly consistent (between eight to ten weeks), regardless of the sample size and the geographic locations covered (Robson, 2002); the amount of time needed to complete an interview-based survey varies according to the sample size and the respondents' dispersed locations. In that sense, a survey based on self-administered questionnaires is able to provide a generous amount of data in a limited period of time; interview-based surveys would require more time and several interviewers may need to be employed.

In addition, the self-completion questionnaire is considered more convenient for the respondents since it can be completed at a time and place of their convenience. Last, the presence of an interviewer may influence the decision over which technique should be the most appropriate for a given study. That said, the absence of an interviewer, in self-administered questionnaires, may imply that there is no possibility of elaborating, probing or clarifying matters if the respondents experience any difficulty answering some questions. Therefore, respondents may skip certain questions or they may even decide not to participate in the survey at all. By contrast, this sort of problem can be alleviated should an interview-based survey be conducted.

However, the presence of the interviewer can potentially lead to problems of response bias, which can be related to the personal characteristics of the interviewer such as ethnicity, gender and social background (Bryman and Bell, 2007; Robson, 2002). The fact that the respondents will not share their responses with an interviewer and will have more time to give thoughtful answers will generate more valid data (Fowler, 2009). Particularly, in the case of Greece it is important that responses are given in a discrete way, far from the sight of either the researcher or the employer since, from the researcher's experience, people in that specific national context are concerned and sensitive about the maintenance of their anonymity.

Further, in the case where more than one interviewer is needed for the purposes of the research, their diverse skills and levels of experience can result in inconsistent quality in terms of the responses. Last, researchers are likely to

obtain a much lower response rate from a self-completion questionnaire than from an interview-based survey. The latter is considered one of the most important disadvantages of a self-completion questionnaire (Bryman and Bell, 2007). Therefore, caution is required when designing the questionnaire so that the latter is not too lengthy, complex and difficult to complete, or simply, not appealing for the respondents.

With regard to the current study, given the big sample of 312 employees located in geographically dispersed locations across the country of Greece, the self-administered questionnaire survey was considered to be more effective in terms of both costs and time than interview-based surveying. Further, the technique provided a relatively low response bias, because it did not involve a third party (i.e. the interviewer) administering the questionnaire; nevertheless, the potential problem of a low response rate still had to be managed. To address this, advice on how to improve response rates for self-administered questionnaires was taken (Bryman and Bell, 2007; Robson, 2002; Czaja and Blair, 1996) and included: 1) attaching to the questionnaire a self-explanatory cover letter detailing the objectives of the research, the reason it was important, when and how to return the completed questionnaire, assurances of confidentiality and a contact number and e-mail address in case they had any questions; 2) providing in each department a sealed box where respondents could place their questionnaire enclosed in a sealed envelope 3) setting out clear instructions and using a professional questionnaire layout; 4) using a follow-up call to reinforce participation. All the activities described above relating to the survey administration are discussed next in the research methods section.

5.3 Research Methods

This section describes the way in which this research was operationalized. A description of the questionnaire translation process and logistics in relation to disseminating the questionnaire packages and collecting the returned surveys is provided. Finally, the operationalization of the study measures used for this study is provided and a method of assessing the common method bias is presented.

5.3.1 Operationalization of Study Measures

The measures used in this study are described in this section. Established scales were employed for all the measures. The original scale measure for each construct was retained and a summary of the scales being used for this study is provided in Appendix 5-1.

When operationalizing measures, given that the research was conducted in a Greek setting, in which respondents use Greek as their first language, the procedures concerning the translation of surveys as suggested by Brislin (1990) were applied. First, the English survey items were translated into Greek. Second, a Greek practitioner in management, who was proficient in English and had working experience in the United Kingdom, suggested improvements to the translated items. Third, to validate the survey translation, the translated items were given to the Head of the organisation used for the final data collection and to the ex-Head of the same organisation, so as to ensure that the statements would be fully understood by the employees in that organisation. As a final check, a native English speaker made comparisons between the original items in English and the back translated items for any discrepancies. Only a few discrepancies were noted in steps three and four as the same ideas and notions also appear in the Greek language. After all the above steps were taken, a pilot study was conducted in order to test the design of the survey instruments (Fowler, 2009). Moreover, the pilot study tested the comprehension of the instruments since all the items were translated in the Greek language (Fowler, 2009). In chapter 6 the sample, procedure, measures and results of the pilot study are discussed. Next, the measures used for each

of the study variables are discussed. The question items relating to each measure are given in Appendix 5-2.

Work engagement

Work engagement was measured by the Utrecht Work Engagement Scale (UWES-17) (Schaufeli et al., 2006). Each aspect of work engagement – vigor, dedication, absorption – was measured using a six-item scale for vigor and dedication and a five-item scale for absorption. Participants indicated their responses on a Likert-type scale with anchors (1) strongly disagree to (5) strongly agree. This scale is translated into Greek and has been tested and validated in the national context of Greece and is available at <<http://www.schaufeli.com>>. Internal consistencies (Cronbach's alpha) typically range between .80 and .90 (Demerouti, et al., 2001; Duran et al., 2004; Montgomery et al., 2003; Salanova et al., 2001; Schaufeli and Bakker, 2004).

Employee psychological ownership

Employee psychological ownership was measured with the scale developed by Avey and Avolio in 2007. The construct consists of two kinds which are measured separately: the promotive and preventative psychological ownership. The promotive ownership consists of self-efficacy, self-identity, belongingness and accountability which are assessed using a three-item scale. The preventative ownership is related to the idea of territoriality which is measured by a four-item scale. Participants indicated their responses, unless otherwise noted, on a Likert-type scale with anchors (1) strongly disagree to (5) strongly agree for the construct of employee psychological ownership. This scale is not available in the Greek language, therefore the direct translation and back-translation approach was applied. Avey et al. (2009) report reliabilities for feelings of territoriality .83, self-efficacy .89, accountability .86, sense of belongingness .92 and self-identity .80 and the overall promotion-oriented psychological ownership measure .91.

In Table 5-1 all the questions for the two main study variables appear by construct and author.

Table 5-1 – Items for Work Engagement and Employee Psychological Ownership

Measures	Construct	Author
At my work, I feel like bursting with energy	Vigor-Engagement	Schaufeli et al., 2006
At my job, I feel strong and vigorous	Vigor-Engagement	Schaufeli et al., 2006
When I get up in the morning, I feel like going to work	Vigor-Engagement	Schaufeli et al., 2006
I can continue working for very long periods at a time	Vigor-Engagement	Schaufeli et al., 2006
At my job, I am very resilient, mentally	Vigor-Engagement	Schaufeli et al., 2006
At my work, I always persevere, even when things do not go well	Vigor-Engagement	Schaufeli et al., 2006
I find the work that I do full of meaning and purpose	Vigor-Engagement	Schaufeli et al., 2006
I am enthusiastic about my job	Dedication-Engagement	Schaufeli et al., 2006
My job inspires me	Dedication-Engagement	Schaufeli et al., 2006
I am proud of the work I do	Dedication-Engagement	Schaufeli et al., 2006
To me, my job is challenging	Dedication-Engagement	Schaufeli et al., 2006
Time flies when I am working	Absorption-Engagement	Schaufeli et al., 2006
When I am working, I forget everything else around me	Absorption-Engagement	Schaufeli et al., 2006
I feel happy when I am working intensely	Absorption-Engagement	Schaufeli et al., 2006
I am immersed in my work	Absorption-Engagement	Schaufeli et al., 2006
I get carried away when I am working	Absorption-Engagement	Schaufeli et al., 2006
It is difficult to detach myself from my job	Absorption-Engagement	Schaufeli et al., 2006
I am confident in my ability to contribute to my organization's success	Self-efficacy-Ownership	Avey and Avolio, 2007
I am confident I can make a positive difference in this organization	Self-efficacy-Ownership	Avey and Avolio, 2007
I am confident setting high performance goals in my organization	Self-efficacy-Ownership	Avey and Avolio, 2007
I would challenge anyone in my organization if I thought something was done wrong	Accountability-Ownership	Avey and Avolio, 2007
I would not hesitate to tell my organization if I saw something that was done wrong	Accountability-Ownership	Avey and Avolio, 2007
I would challenge the direction of my organization to ensure it's correct	Accountability-Ownership	Avey and Avolio, 2007
I feel I belong in this organization	Belongingness-Ownership	Avey and Avolio, 2007
This place is home for me	Belongingness-Ownership	Avey and Avolio, 2007
I am totally comfortable being in this organization	Belongingness-Ownership	Avey and Avolio, 2007
I feel this organization's success is my success	Self-identity-Ownership	Avey and Avolio, 2007
I feel being a member in this organization helps define who I am	Self-identity-Ownership	Avey and Avolio, 2007
I feel the need to defend my organization when it is criticized	Self-identity-Ownership	Avey and Avolio, 2007
I feel I need to protect my ideas from being used by others in my organization	Territoriality-Ownership	Avey and Avolio, 2007
I feel that people I work with in my organization should not invade my workspace	Territoriality-Ownership	Avey and Avolio, 2007
I feel I need to protect my property from being used by others in this organization	Territoriality-Ownership	Avey and Avolio, 2007
I feel I have to tell people in my organization to 'back off' from projects that are mine	Territoriality-Ownership	Avey and Avolio, 2007

Total scores on each measure will be obtained by averaging across items.

Job Demands

Job demands, as discussed earlier (see sections 2.1.2 and 2.4) are seen as aspects of work that require effort from the employees' part and therefore they are associated with costs (Demerouti and Bakker, 2011). As discussed earlier (sections 2.1.2 and 4.2.2, 4.2.3), this research considers job demands as falling into two categories: namely hindrance stressors and challenge stressors (Podsakoff et al., 2007; LePine et al., 2005). Here, workload, mental demands, emotional demands, emotional dissonance, changes in the organisation and positive and negative work-home interference were measured. The criteria that led to the choice of these specific demands was the context of the studied organisation, the Head's expertise and knowledge of that specific organisation, the fact that many researchers have made use of the specific demands in the past and the confidence that other researchers have used them in the same context (also discussed in section 2.4). The Head of this organisation, after discussions, also encouraged the measurement of some job demands (i.e. emotional demands, changes in the organisation) as these seemed important for the particular organisational setting. Table 5-2 summarizes the distinction between hindrance and challenge job demands adopted in this research and then each measurement scale for each job demand will be presented separately.

Table 5-2
Hindrance and Challenge Demands

Job Demands	Hindrance	Challenge
<i>Workload</i>		✓
<i>Mental Demands</i>		✓
<i>Emotional Demands</i>	✓	
<i>Emotional Dissonance</i>	✓	
<i>Changes in Org.</i>		✓
<i>Negative Work-Home Interference</i>	✓	
<i>Positive Work-Home Interference</i>		✓

The job demands listed in the table above are those which are measured in the current research.

Workload

The measurement for workload was based on Karasek (1985)'s job content instrument. The scale includes five items that refer to quantitative, demanding aspects of the job. Examples are "Do you have too much work to do?" "Do you have to work very fast?" and "How often does it occur that you have to work extra hard to finish your work?".

Mental demands

Mental demands were assessed by the scale developed by Karasek (1979) and included six items. Sample items are "Do you think your job is mentally too demanding?" and "Does your job require your full attention?". Original Cronbach's alpha scores reported by Karasek (1979) range from .60 to .75.

Emotional demands

Measurement was based on a scale developed by Van Veldhoven and Meijman (1994) and includes four items. These items are part of the Questionnaire on the Experience and Evaluation of Work (VBBA;cf. van Veldhoven and Broersen, 1999; van Veldhoven and Meijman, 1994) with an internal reliability of at least .75. Examples are "Does your work put you in emotional situations?" and "Do the people who you meet through your work intimidate you?". The inclusion of this type of demand was strongly encouraged by the Head of the organisation where this research was conducted. As discussed earlier (section 2.4), emotional demands occur when employees have to interact with customers as part of their job (Steinberg and Figart, 1999). For the purpose of this thesis, data were collected from a service organisation where employees have to talk frequently with customers either on the phone or in person. In this sense, this demand was traced as important for this type of employee by both the researcher and the organisation.

Emotional dissonance

This was assessed by five items from the scale of Zapf, Vogt, Seifert, Mertini and Isic (1999) such as "During your work, how often do you have to express positive feelings towards your clients while you actually feel indifferent?". Zapf et al. (1999) report a Cronbach's alpha of .90. As discussed earlier

(section 2.4), emotional dissonance is especially important for employees working in the service sector.

Changes in the organisation

Changes were assessed by seven items based on a scale developed by Bakker et al. (2003; cited in Xanthopoulou et al., 2007) such as “Do you have to adjust to changes in the organisation?”. The scale assesses the frequency of changes in the organisation and the way employees perceive them. Xanthopoulou et al. (2007) give for this scale a reliability score of .82.

Positive work-home interference and Negative work-home interference

The extent to which work has a negative or positive impact on home life was assessed by the scale of work-home interference. This scale consists of three items for negative work-home interference and three items for the positive work-home interference, which are a selection of the questionnaire Survey Work-home Interference NijmeGen (SWING; Wagena and Geurts, 2000) with an original Cronbach's alpha score of .90.

Affective Commitment

This study takes into consideration the affective dimension of organisational commitment. The latter is defined as the employees' emotional attachment to, or identification with, and involvement in the organisation (Allen and Meyer, 1990). Affective Commitment was measured by eight items developed by Meyer et al. (1990). Sample items of affective commitment are “I enjoy discussing my organization with people outside it” and “I do not feel emotionally attached to this organization”. The Cronbach's alpha score originally reported by the authors is .87 (Meyer et al., 1993).

Job satisfaction

Job satisfaction concerns the opinion people have about their job or the positive attitude people have for their job (Aggarwal et al., 2007). Job satisfaction was assessed with the three items related to job satisfaction from the Michigan Organizational Assessment Questionnaire (Cammann et al. 1983). Respondents were asked to indicate their level of agreement on a five-

point Likert-type scale (1 strongly disagree to 5 strongly agree). The measurement items are: (1) “All in all, I am satisfied with my job,” (2) “In general, I don’t like my job” [reverse coded], and (3) “In general, I like working here.” The original coefficient alpha for job satisfaction was .77 as reported by the authors of the scale (Cammann et al., 1983).

Perceived Supervisor Support

Perceived supervisor support (PSS) is the perceived support from supervisors-managers towards their employees (Rhoades and Eisenberger, 2002). Supervisor Support was measured by four items developed by Rhoades et al. (2001). A sample item is “My supervisor cares about my opinions”. The reliability scores for this scale range from .74 to .84 (Rhoades et al., 2001); previous research provides empirical support for the high internal reliability and unidimensionality of the Perceived Organizational Support (SPOS), part of which is the PSS scale (Rhoades et al., 2001).

Demographics

Some additional variables such as employee age, gender, educational level, organisational and sector tenure were also included. These variables are explained in chapter 6 (Pilot Study) and 7 (Final Study).

5.4 Common Method Variance

Common method variance is a potential problem in behavioral research because it is related to measurement error (Podsakoff et al., 2003). Subsequently, measurement error can affect the validity of the results and may offer misleading conclusions about the relationship between the observed variables (Campbell and Fiske, 1959). Sources of common method biases can be the fact that results for both the predictor and the criterion variables are obtained from one single source (i.e. employees); other sources can be the measurement items, the context of the items within the measurement scale and the context in which the measures are obtained (Podsakoff et al., 2003). Since the measurement of the studied variables in this thesis come from one single source, the results could potentially be subject to common method bias.

In general, the literature suggests two ways to control for common method variance: 1) the design of the study's procedures and the questionnaire, and 2) statistical controls. As far as the first point is concerned, drawing from Podsakoff et al. (2003)'s suggestion, the questionnaire of this study provided the measurement of the predictor (psychological ownership) and the outcome (work engagement) variables in terms of some sort of psychological separation. That said, between the two scales other variables were measured, along with a completely unrelated to work attitudes scale of Fashion Following, which from now on will be called CMV Indicator (Common Method Variance Indicator). Therefore, the measurement of the predictor variable was not related to the measurement of the criterion variable.

In terms of statistical controls, Harman's one-factor test was employed to control for method bias. Additionally, social desirability, which is considered a possible source of method bias, was also measured. The next sections discuss these two statistical controls.

5.4.1 Harman's One-factor Test

Podsakoff and Organ (1986) mainly suggested Harman's single factor test to check for common source bias. In this study, Harman's single factor test is conducted in the dataset of the final study (N = 312, chapter 7). The items of each scale used in this research were included in an exploratory factor analysis and the one-factor model was compared with the original factor model. As indicated in Table 5-3, the original fit models are presenting a significantly better fit with the data than the one-factor model. This indicates that, according to Harman's one-factor test, it is unlikely the data is biased due to common method variance.

Items Included	<i>fit one-factor model</i>					<i>fit original model</i>					
	χ^2	df	CFI	TLI	RMSEA	χ^2	df	CFI	TLI	RMSEA	
Work Engagement	628.491	119	0.823	0.797	0.117	267.613	88	0.937	0.903	0.081	3 factor
EPO	855.361	104	0.571	0.505	0.152	124.144	62	0.965	0.931	0.057	4 factor
Job Satisfaction	0.000	0	1.000	1.000	0.000	0.000	0	1.000	1.000	0.000	1 factor
Affective Commitment	137.177	20	0.824	0.754	0.137	21.712	13	0.987	0.972	0.046	2 factor
Perceived Supervisor Support	6.393	2	0.993	0.979	0.084	6.393	2	0.993	0.979	0.084	1 factor
Workload	15.446	2	0.973	0.918	0.147	15.446	2	0.973	0.918	0.147	1 factor
Mental Demands	0.980	2	1.000	1.007	0.000	0.980	2	1.000	1.007	0.000	1 factor
Emotional Demands	180.224	9	0.780	0.633	0.247	1.862	4	1.000	1.010	0.000	2 factor
Emotional Dissonance	45.622	5	0.933	0.866	0.162	0.799	1	1.000	1.003	0.000	2 factor
Organisation Changes	119.620	14	0.887	0.831	0.156	30.811	8	0.976	0.936	0.096	2 factor
Negative-Positive Work-Home Interference	293.286	9	0.694	0.490	0.319	4.622	4	0.999	0.997	0.022	2 factor
All Demands	3.495.557	464	0.375	0.332	0.145	529.930	268	0.946	0.900	0.056	8 factor

Table 5-3
Harman's One-factor
Test (CMV) for all the
Study's Scales

5.4.2 Social Desirability

Social responsibility also measured the response bias of the respondents. Specifically, the necessity to measure social desirability lies with the fact that the present research is based on a self-report methodology and participants may offer the responses that they think best fit the researcher's or their manager's expectations (Donaldson and Grant-Vallone, 2002; Moorman and Podsakoff, 1992; Paulhus, 1991; Zerbe and Paulhus, 1987; Podsakoff and Organ, 1986). Social desirability not only can change the mean levels of the response but can also hide the real relationships among the variables (Ganster et al., 1983). Therefore, social desirability may be an important factor when respondents provide their answers (Kahneman and Kruger, 2006).

This study made use of the ten-item Marlowe–Crowne Scale as introduced by Strahan and Gerbasi (1972), the Strahan–Gerbasi X1 Scale. The full-form Marlowe–Crowne Scale has demonstrated reasonable reliability (Cronbach's alpha .64–.88) among student samples (Fraboni and Cooper, 1989; Reynolds, 1982; Robinson and Shaver, 1973; Strahan and Gerbasi, 1972); the academic literature has been skeptical whether there is a good and reliable enough measure of social desirability (Thompson and Phua, 2005; Loo and Thorpe, 2000). The results will be demonstrated in Chapter 7.

5.5 Analytical Strategy

This section describes the analytical strategy employed for this study so as to acquire valid results and reach safe conclusions. First, the constructs were validated using exploratory (EFA) and confirmatory factor analysis (CFA) and the reliability of all scales (Cronbach's alpha) was indicated. Second, descriptive statistics and Pearson's correlations were obtained so as to illustrate the preliminary relationships among the study variables, as suggested in the theory. Third, the structural relationships were tested using a structural equation modelling (SEM) approach. The rationale for choosing SEM as the analytical tool is provided below along with the details of the fit statistics being used to test the study hypotheses.

Latent variable structural equation modelling (SEM) with MPlus 7 was used to test the suggested structural model and the hypotheses presented in Chapter 4. The latter has been acknowledged as a powerful statistical technique that combines the analysis of the causal processes into a number of structural equations and portrays these causal relationships so as to encourage a more explicit conceptualization of the theory under study (Byrne, 2013). Further, it also follows a confirmatory, rather than exploratory, route to data analysis. Moreover, the analysis accounts for measurement error in the dependent and the independent variables, when estimating structural relationships between latent variables; the typical regression models are incapable of either observing or correcting for measurement error (Byrne, 2013; Geiser, 2012). Also, SEM allows for estimating multivariate relationships and interval indirect effects. Therefore, SEM was deemed appropriate for testing the structural models presented in Chapter 4.

In SEM, the model is created prior to estimation according to the theory presented by past research. Hence, the measurement models were formulated, by assigning observable indicators to their latent constructs and then structural models establishing relationships between the study variables were identified. The two-step approach suggested by Anderson and Gerbing (1988) was followed in the analysis process to test hypothesized relationships. First, the measurement model was validated through confirmatory factor analysis, in order to demonstrate the adequacy of the observed indicators as the measures for the latent variables. Second, the structural model, representing the hypothesized structural relationships between the latent variables, was evaluated using a nested-models comparison approach and subsequently the path estimates were assessed based on the best fit model.

Several model fit indices can be used to evaluate the fit of the model, which allows researchers to identify which of the proposed models best fit the data. With regard to this, it is suggested that more than one fit index is used to assess the fit of the model (Loehlin, 1998). For the purposes of the current study, the chi-square difference test ($\Delta\chi^2$) was used to observe the best fit model from the nested-models comparison. The root mean square error of approximation (RMSEA) and two incremental fit indices, specifically: comparative fit index

(CFI) (Bentler, 1990) and the TLI (Tucker and Lewis, 1973) were employed as the adequate fit indices of the model.

The chi-square statistic (χ^2) is the generally recognized fit index for assessing model fit. It tests the null hypothesis that there is no difference between the proposed model and the data structure. In particular, the higher the probability related to χ^2 , the better the fit between the hypothesized model and the perfect fit (Bollen, 1989). Hence, the chi-square statistic should be non-significant, indicating that the model fits the data satisfactorily. However, the chi-square statistic is sample sensitive and in fact the bigger the sample size, the more likely for the chi-square to be significant, indicating that it is almost impossible to retain the null hypothesis for a large sample as in the current study (Jöreskog, 1993; Marsh et al., 1988). The chi-square difference test ($\Delta\chi^2$) provides a useful basis for making decisions concerning comparisons between nested models, where all of a model's free parameters are a subset of a second model's free parameters (Loehlin, 1998).

In addition to the chi-square statistic, other fit indices have been developed (Hu and Bentler, 1995; Bentler and Bonnett, 1980). Specifically, RMSEA has been accepted as an effective measure for indicating how well the model would fit in the population (Browne and Cudeck, 1993). In theory, no model would fit perfectly in the population and the deviation could be attributed to the error of approximation of the population data: an RMSEA value close to zero indicates a small error of approximation of the population data and a good fit of observed data to the hypothesized covariance structure model of interest. In other words, the interpretation of RMSEA values is considered according to the following: < 0.05 = good fit; $0.05 - 0.08$ = fair fit; $0.08 - 0.10$ = mediocre fit; > 0.10 = poor fit (Byrne, 2013). However, these criteria are based on subjective judgment indicating that they should not be taken for granted (Byrne, 2013) and RMSEA is sensitive to small sample sizes and tends to reject true population models (Hu and Bentler, 1995).

CFI and TLI are incremental fit indices assessing the relative fit of the target model to a highly restricted model or uncorrelated variables null model, which represents a baseline level that any realistic model would be expected to

exceed. Specifically, the incremental indices estimate the relative improvement per degree of freedom of the target model over a baseline model. The values CFI and TLI range from zero to 1.00 while values close to 1.00 are considered indicative of a good model fit (Byrne, 2013); values close to 0.90 are also acceptable as a good model fit (Bentler, 1992).

Although CFI and TLI focus on fit comparison of nested models, two more fit indices, the AIC (Akaike, 1987) and the BIC (Raftery, 1993; Schwartz, 1978) are used for assessing the model fit of non-nested models. Specifically, the smaller the value of AIC and BIC the better the fit of the hypothesized model; the AIC is the most commonly used index representing which of the tested models offers the best fit to the data (Raykov and Marcoulides, 2000).

Mediation Analysis

A mediator is defined as the variable that observes the relation between an independent and a dependent variable (Holmbeck, 1997; Baron and Kenny, 1986; James and Brett, 1984). Put differently, a mediator explains the way a predictor impacts on an outcome variable (Baron and Kenny, 1986). The measurement of mechanisms such as mediators enables researchers to test and establish causal links that are critical for influencing outcomes (Judd and Kenny, 1981). Mediation analysis goes one step further in the significant statistical relationship between the study variables and provides an explanation and theory testing with regards to this relationship (Hoyle and Kenny, 1999). In fact, mediation effects demonstrate some kind of theoretical progress aiming to deepen the understanding of the underlying mechanisms among the observed variables (MacKinnon, 2008).

Traditionally, the testing of mediation effects was done with multiple regression as a four-step procedure, as introduced by Kenny and his colleagues (Kenny et al., 1998; Baron and Kenny, 1986; Judd and Kenny, 1981). First, a significant relationship between the independent and the dependent variable is shown. A mediation effect may exist even if there is no significant effect of the independent variable on the dependent (MacKinnon, 2008). Second, a significant relationship between the independent/predictor and the mediator is tested. Third, a significant relationship between the mediator and the dependent

variable is observed. Fourth, the strength of the relationship between the predictor and the outcome variable is shown to be weaker when the mediator is added to the model (Frazier et al., 2004).

However, the mediation effects can also be tested in SEM and this is actually the preferred method and used in this study (Kenny et al., 1998; Hoyle and Smith, 1994; Baron and Kenny, 1986; Judd and Kenny, 1981). The benefits that SEM provides are that it actually offers information about the measurement error, the degree of fit of the entire model and it is characterized by greater flexibility in comparison to multiple regression analysis (Frazier et al., 2004). Further, SEM makes use of the first three steps that were mentioned earlier for multiple regression analysis. Then, the fit of the predictor-mediator-outcome variable is compared with and without the direct path from the independent to the dependent variable constrained to zero (Frazier et al., 2004). In order to support a complete mediation effect, the model where the predictor-outcome relation is constrained to zero should offer a better fit to the data. Otherwise, a partial mediation takes place.

In sum, because of the big sample size in the current study, the present researcher gave less priority to the use of chi-square distribution analysis in favour of the RMSEA for statistically assessing the overall fit of the model. Further, CFI and TLI were used to evaluate the proportion of fit of the hypothesized nested models; the chi-square difference test ($\Delta\chi^2$) was considered the appropriate best fit model in the nested-models comparison. Moreover, mediation analysis was employed so as to test the theoretical linkages between the study variables. The fit of each mediation model was constrained to zero and was compared to the fit of the model being estimated freely so as to reach conclusions about the type of mediation effects that influence the relationships among the variables. The data analysis and results from this analytical strategy are presented in chapters 6 and 7.

Chapter 6

Pilot Study

6.1 Methodology

Participants

In order to conduct this pilot study, access to a public organisation operating in the service sector in Greece was gained. This organisation is a different organisation from the one that will be used for the final data collection but they are both found in the same geographic area. This organisation is responsible for serving 353,820 people in the west part of Greece and it consists of 12 sub-departments. In total there are 13 different divisions (including this one) across the country.

Procedure

The data for this pilot study were collected through paper-based self-administered questionnaires, which were formatted and distributed to the respondents. The questionnaires included a cover letter that informed participants about the purpose of the study and an envelope which later enclosed the completed questionnaire. Participants were asked to complete the questionnaire as part of a study on employee attitudes and behaviour. Participation was voluntary and participants were informed that their responses would remain anonymous and confidential. Participants had to return their survey in the sealed envelope in a box that was placed in the department for the purposes of this research.

The first step taken in order for this pilot study to be accomplished was to find a public organisation willing to give access to the researcher. The researcher's intention was to conduct the pilot study in a different organisation from the one that the final data collection would take place at so as to enrich the research results. In late May 2013, the specific organisation was contacted and after discussing the main purposes of the research and the necessity of a pilot study with the Head of the organisation, access was gained.

At the second stage (in early July 2013), 60 questionnaires were delivered to the employees. The questionnaires were returned in the middle of August 2013. The number of respondents is 48. The response rate is 80%.

6.2 Sample

Control Variables

To allay respondents' potential concerns about the anonymity of their responses, the age, gender and educational level were assessed using ordinal categories. Age was assessed with nine ordinal categories (18-23, 24-28, 29-34, 35-39, 40-45, 46-51, 52-57, 58-65, Over 65). Gender was assessed dichotomously (female = 0; male = 1). Educational level was assessed with five ordinal categories (High School, Bachelor, Master, PhD, Other). Industry and organisational tenure and working hours per week were assessed through open questions. Table 6-1 presents the frequencies for demographics for the specific public organisation.

Table 6-1
Frequencies

Age	
18-23	2
24-28	2
29-34	9
35-39	18
40-45	8
46-51	1
52-57	6
58-65	2
Gender	
Female	23
Male	24
Education	
HighSchool	10
Bachelor	27
Master	7
PhD	2
Other	1

In total, the average age of employees was between 35 – 39 years old (37.5 percent) followed by the age group of 29 – 34 years old (18.8 percent) and females and males are almost equal. Participants had been in their current job and in this organisation for an average of 9.5 years. They had an average 14.6 years of working experience in the public sector as well. 57.4 percent of the employees hold a Bachelor Degree and 21.3 percent hold a High School Diploma (or else, Apolytirion). Employees appear to work on average for 39.5 hours per week.

Crosstabs for Demographics

Crosstabulations have been conducted in order to compare the demographic data with each other. The analysis indicated that most women (8 out of 23) and men (9 out of 24) are between 35 – 39 years old. A Master and a Ph.D. degree is a privilege of younger employees between 29 – 39 years old and of those with fewer working years in the organisation, while a High School diploma is more often gained by employees over 40 years old; low-skilled employees are those with more working years in the organisation and in the public sector. The results seem quite reasonable when taking into consideration that Masters became popular in Greece only recently and ten or twenty years ago there was no need for a job hunter to hold a Bachelors or a postgraduate diploma in order to find a job. The age in comparison to the sector tenure did not lead to any important conclusions. Only two men hold a Ph.D. degree, whereas gender in comparison to organisation and sector tenure did not indicate any important results.

The next section describes the measurement scales that were used in this pilot study and presents their reliability scores.

6.3 Measurements

Participants indicated their responses, unless otherwise noted, on a five-point Likert-type scale with anchors (1) strongly disagree to (5) strongly agree. Job demands were scored on a 5-point scale ranging from (1) never to (5) always. Social Desirability Scale was scored on a True/False basis. Total scores on each measure were obtained by averaging across items.

Work Engagement was measured by the Utrecht Work Engagement Scale (UWES-17) ($\alpha = 0.96$) (Schaufeli et al., 2006). Specifically, vigor presents $\alpha = 0.85$, dedication $\alpha = 0.95$ and absorption $\alpha = 0.92$. Sample items are “At my work I feel like bursting with energy”, “At my job, I am very resilient, mentally”, “I am enthusiastic about my job” and “I feel happy when I am working intensely”.

Employee Psychological Ownership was assessed by sixteen items developed by Avey and Avolio (2007). Psychological ownership is divided into two types: the preventative psychological ownership ($\alpha = 0.80$), which is basically linked to the concept of territoriality and the promotive psychological ownership ($\alpha = 0.91$). Specifically, self-efficacy gives $\alpha = 0.76$, accountability $\alpha = 0.59$, belongingness $\alpha = 0.92$ and self-identity $\alpha = 0.92$. Sample items are “I am confident in my ability to contribute to my organisation’s success”, “I would challenge anyone in my organisation if I thought something was done wrong”, “I am totally comfortable being in this organisation”, “I feel being a member in this organisation helps define who I am” and “I feel I need to protect my ideas from being used by others in my organisation”.

Affective Commitment was measured by eight items ($\alpha = 0.92$) developed by Meyer et al. (1990). Sample items of affective commitment are “I enjoy discussing my organisation with people outside it” and “I do not feel emotionally attached to this organisation”.

Job Satisfaction was indicated through three items ($\alpha = 0.86$) introduced by Cammann et al. (1983). A sample item is “In general, I like my job”. *Perceived Supervisor Support* was measured by four items ($\alpha = 0.94$)

developed by Rhoades et al. (2001). A sample item is “My supervisor cares about my opinions”.

Workload (cited in Bakker et al., 2004), ($\alpha = 0.77$) was based on Karasek’s (1985) job content instrument. The scale includes five items that refer to quantitative, demanding aspects of the job. Examples are “Do you have too much work to do?” “Do you have to work very fast?” and “How often does it occur that you have to work extra hard to finish your work?”.

Mental demands were assessed by the scale developed by Karasek (1979) and included six items ($\alpha = 0.89$). Sample items are “Do you think your job is mentally too demanding?” and “Does your job require your full attention?”.

Emotional demands were based on a scale developed by Van Veldhoven and Meijman (1994) and included four items ($\alpha = 0.79$). Examples are “Does your work put you in emotional situations?” and “Do the people who you meet through your work intimidate you?”.

Emotional dissonance was assessed by 5 items ($\alpha = 0.83$) from the scale of Zapf, Vogt, Seifert, Mertini and Isic (1999) such as “During your work, how often do you have to express positive feelings towards your clients while you actually feel indifferent?”

Changes in the organisation were assessed by 7 items ($\alpha = 0.92$) based on a scale developed by Bakker et al. (2003) such as “Do you have to adjust to changes in the organisation?”

Social Desirability was measured by ten items ($\alpha = 0.48$) developed by Strahan and Gerbasi (1972). Sample items are “You are always willing to admit it when you make a mistake” and “At times you have really insisted on having things your own way”.

The next section presents the correlation analysis that was conducted for this pilot study.

6.4 Data Analysis and Results

6.4.1 Correlations

The reliability measures, means, standard deviations and intercorrelations among the main variables are illustrated in Table 6-2. As shown, the reliabilities ranged from a low of 0.77 to a high of 0.96 apart from social desirability that gave a reliability of 0.48. Among these, eleven out of twelve are considered acceptable (Nunnally, 1978).

Job Satisfaction gives a mean value of 3.90.

Perceived Supervisor Support gives a mean value of 3.68 and it is related positively and significantly to job satisfaction ($r = 0.60^{**}$).

Affective Commitment gives a mean value of 3.26 and it is correlated positively and significantly to job satisfaction ($r = 0.85^{**}$) and perceived supervisor support ($r = 0.70^{**}$).

Work Engagement gives a mean value of 3.4 and it is related positively and significantly to job satisfaction ($r = 0.77^{**}$), perceived supervisor support ($r = 0.66^{**}$) and affective commitment ($r = 0.77^{**}$).

Preventative Psychological Ownership (Territoriality) gives a mean value of 2.47 and it is not related to any of the above constructs. *Promotive Psychological Ownership* gives a mean value of 3.46 and it is related positively and significantly to job satisfaction ($r = 0.77^{**}$), perceived supervisor support ($r = 0.64^{**}$), affective commitment ($r = 0.75^{**}$) and work engagement ($r = 0.84^{**}$).

Workload gives a mean value of 3.45 and it is related positively and significantly to job satisfaction ($r = 0.36^{**}$), perceived supervisor support ($r = 0.44^{**}$), affective commitment ($r = 0.48^{**}$) and work engagement ($r = 0.35^{*}$).

Mental demands give a mean value of 3.80 and they are correlated positively and significantly to job satisfaction ($r = 0.50^{**}$), perceived supervisor support ($r = 0.52^{**}$), affective commitment ($r = 0.54^{**}$), work engagement ($r = 0.33^{*}$) and workload ($r = 0.72^{**}$).

Emotional Demands give a mean value of 2.62 and they are related positively and significantly to workload ($r = 0.52^{**}$) and mental demands ($r = 0.46^{**}$).

Emotional Dissonance gives a mean value of 2.58 and it is related positively and significantly to emotional demands ($r = 0.65^{**}$) and negatively and significantly correlated to preventative psychological ownership (territoriality) ($r = -0.32^{*}$).

Changes in the organisation give a mean value of 2.50 and are related positively and significantly to workload ($r = 0.37^{**}$), mental demands ($r = 0.32^{*}$) and emotional demands ($r = 0.49^{**}$).

Social Desirability offers a mean value of 2.74 and it is correlated positively and significantly to emotional demands ($r = 0.37^{**}$) and emotional dissonance ($r = 0.32^{**}$).

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Job Satisfaction	3.90	0.96	(0.86)											
2. Perceived Supervisor Support	3.68	1.03	0.60**	(0.94)										
3. Affective Commitment	3.26	0.9	0.85**	0.70**	(0.92)									
4. Work Engagement	3.40	0.85	0.77**	0.66**	0.77**	(0.96)								
5. Preventative Psychological Ownership	2.47	0.78	0.00	0.15	-0.01	0.01	(0.80)							
6. Promotive Psychological Ownership	3.46	0.67	0.77**	0.64**	0.75**	0.84**	0.01	(0.91)						
7. Workload	3.45	0.73	0.36**	0.44**	0.48**	0.35*	0.09	0.20	(0.77)					
8. Mental demands	3.80	1.01	0.50**	0.52**	0.54**	0.33*	0.27	0.26	0.72**	(0.89)				
9. Emotional demands	2.62	0.72	0.02	0.22	0.17	0.03	0.18	0.01	0.52**	0.46**	(0.79)			
10. Emotional dissonance	2.58	0.77	-0.28	-0.09	-0.17	-0.22	0.26	-0.32*	0.22	0.07	0.65**	(0.83)		
11. Changes in the organisation	2.50	0.85	0.15	0.24	0.24	0.16	0.26	0.07	0.37**	0.32*	0.49**	0.27	(0.92)	
12. Social desirability	1.35	0.13	0.24	0.08	0.22	0.19	0.01	0.22	0.06	0.02	-0.20	-0.23	-0.06	(0.48)
<i>Note: N= 48, *p < 0.05; **p < 0.01; reliabilities are in parentheses</i>														

Table 6-2
Means, SD,
Reliabilities
&Correlations

6.5 Discussion

In general, the results indicate that work engagement and promotive psychological ownership are correlated positively and significantly. The employees are moderately engaged and the level of their promotive psychological ownership is slightly higher than the level of their work engagement. Further, employees seem quite unwilling to defend their organisation (preventative psychological ownership – territoriality). Promotive psychological ownership is also positively related to a number of positive work-related attitudes (job satisfaction, perceived supervisor support and affective commitment), indicating that it is part of the positive organisational life. In addition, preventative psychological ownership, or else territoriality, is not correlated to any of the study variables. However, these preliminary results should be treated with caution.

Table 6-2 reports pairwise correlations between some of the independent variables in the model that are sufficiently high to warrant careful inspection of the results to assess the risk that multicollinearity may drive the findings of the final study based on these measures. Multicollinearity describes the presence of linear relationships among independent variables and may pose problems in theory testing (Type II errors) (Malinvaud, 1966; Johnston, 1963). Mason and Perreault (1991) suggest that multicollinearity leads to inflated estimates of standard errors as well as associated inference errors based on these inflated estimates. Multicollinearity does not bias the estimates of regression coefficients or affect measures and tests of model fit (Kennedy, 2008: 193). This means that the effects of multicollinearity are analogous to the effects of a small sample size, leading some to whimsically refer to multicollinearity as “micronumerosity” (Goldberger, 1989: 141). This means that attention should be given to targeting a sufficiently large number of survey respondents and maximizing the response rate in order to reduce the risks associated with multicollinearity in the final study. It is also important to test for the discriminant validity of employee psychological ownership from the other variables.

By inflating standard errors, multicollinearity increases the likelihood of Type II errors, all else equal. This means that in the presence of multicollinearity one must be cautious about inferring that no significant relationship exists between independent and dependent variables. That said, the presence of multicollinearity should increase confidence in any statistically significant inferences as these have been drawn in the presence of standard errors that have been inflated by multicollinearity. This should be considered in the interpretation of any findings.

6.6 Conclusion

To conclude, the instruments of this research behaved well and the employees seemed to appreciate the meaning of the items; no difficulty was found in terms of completing the questionnaires by the respondents. Therefore, the present researcher will be able to use these scales in the main study and have a benchmark for comparison when looking at the main dataset. In that sense, the pilot study served its purpose and the final data collection can be achieved with a greater degree of certainty and confidence.

In addition, the results indicate that work engagement and promotive psychological ownership are correlated positively and significantly ($r = 0.84$, $p < 0.01$). Thus, there is some confidence that the main study will produce meaningful results. However, the social desirability scale did not offer a high reliability score and their measurement will be further considered in the final study.

The next section presents the final study and the formation of the main study hypotheses, the methodology that was followed, the data analysis and results and the implications of the findings.

Chapter 7

Final Study

7.1 Introduction

As discussed earlier in this study (Chapter 4, see Figure 4.1), the first hypothesis presented is that promotive psychological ownership is positively related to work engagement (H1). Second, preventative psychological ownership is positively related to work engagement (H2). Third, i) hindrance stressors are negatively related to work engagement (H3.1) and, ii) challenge stressors are positively related to work engagement (H3.2). Fourth, i) hindrance stressors are negatively related to promotive psychological ownership (H4.1) and, ii) challenge stressors are positively related to promotive psychological ownership (H4.2). Fifth, promotive psychological ownership mediates the relationship between job demands and work engagement (H5). Hypotheses H6 and H7 concern the mediating effect of affective commitment and job satisfaction in the relationship between promotive psychological ownership and work engagement. Eighth, it is hypothesized that promotive psychological ownership mediates the relationship between perceived supervisor support and work engagement (H8). Ninth, it is hypothesized that promotive psychological ownership and preventative psychological ownership are distinct from work engagement, affective commitment and job satisfaction (H9). In the next section, the results of the final data set are presented and their implications are discussed.

7.2 Methodology

Participants In order to conduct this survey access to one public organisation operating in the service sector in Greece was gained. The organisation operates in different divisions, and in each region of the country there is one such division. My research focuses on the west, north-west, central parts and two of the Ionian islands of Greece. In the west there are four different departments operating in four different cities within the same province; the same applies to the north-west. Three departments in the central part of the country and two Ionian Islands were also included in this research. Therefore,

the data is collected from four different provinces and in total includes employees from thirteen departments from thirteen different cities. The total number of employees working in the departments in the country is 3,445, with 167 employed in the west (including the Ionian Islands), 160 employed in the south-west and 100 in the central part of the country. In total, 367 questionnaires were delivered and 312 valid questionnaires were returned, representing a response rate of 85%. In Greece the HR field is quite undeveloped (Papalexandris and Stavrou-Costea, 2004), hence it would be interesting to observe the levels of work engagement and employee psychological ownership to the organisation they work for in that specific national context.

Information concerning this specific organisation was derived from the Head of the Organisation (responsible for all the examined geographical areas) through a telephone conversation and further meetings before the data collection. It was revealed that despite the fact that this organisation does not have an established HR system, they still implement some basic HR practices. Training occurs when the company has to be developed in a new field where training cannot come from the other members of the company, while the main source of funding comes from the government. Therefore, the organisation is accountable to the government and they do not have established any formal procedures as far as the management is concerned. The Head of the Organisation mentioned that the employees in this organisation are not autonomous and they have to respect the strict hierarchy. This is also confirmed in the literature where it is supported that public sector employees do not enjoy high levels of autonomy and the organisational structure is rather bureaucratic than flat (Markovits et al., 2010).

Procedure The data for this study were collected through paper-based self-administered questionnaires, which were formatted and distributed to the respondents. The questionnaire included a cover letter that informed participants about the purpose of the study and an envelope which later enclosed the completed questionnaire. Participants were asked to complete the questionnaire as part of a study on employee attitudes and behaviour. Participation was voluntary and participants were informed that their

responses would remain anonymous and confidential. Participants had to return their survey in a sealed envelope in a box that was placed in each department for the purposes of this research.

The first step taken in order for this survey to be accomplished was to find companies willing to give access to the researcher. At the end of January 2013, the present researcher contacted the specific organisation, which was the first company to be contacted. They were contacted by telephone, explaining what the survey would be about, the reason for its necessity and what data were required. The main concern from the organisation was maintaining anonymity in this survey. The data required were found to be too private, being related to the employees' psychological attitudes and it was acknowledged by the Head of the Organisation that this was the first time that a survey from the organisational behaviour field had been taken in the organisation. However, after discussing all the details of the survey, the Head of the Organisation gave the access required.

At the second stage (in the middle of October 2013), the questionnaire was discussed with the Head of the Organisation. Then the questionnaires were delivered to the Head of the Organisation and from there to the line managers and subsequently to the employees. The data were collected during October 2013 and November 2013 and Structural Equation Modeling (SEM) examined the relationship between the variables by using Mplus software.

Engagement in Greece is a term increasingly used by practitioners in multinational companies, but only a few research studies have appeared so far in the Greek organisational behaviour literature. This is probably because engagement is still a new topic. Nonetheless, the unique character of human resource management and organisational behaviour in Europe (Nikandrou et al., 2005) suggests that the literature discussed earlier (Chapters 2, 3 and 4) also applies to the Greek reality. Especially in Greece it is really hard for a researcher to find access since companies are not used to receiving requests such as revealing company data for surveys. However, access to this organisation was achieved.

7.2.1 Sample

Control Variables

To allay respondents' potential concerns about the anonymity of their responses, age, gender and educational level were assessed using ordinal categories. Age was assessed by nine ordinal categories (18-23, 24-28, 29-34, 35-39, 40-45, 46-51, 52-57, 58-65 and Over 65). Gender was assessed dichotomously (female = 0; male = 1). Educational level was assessed by five ordinal categories (High School, Bachelor, Master, PhD, Other). Post in the organisation was assessed by three nominal categories (Lower lever employees, Administrative employees and Managers). Industry and organisational tenure and working hours per week were assessed through open questions. Table 7-1 presents the Frequencies for demographics for 312 employees.

Table 7-1
Frequencies for Demographics

	Employees	Percent	Std. Deviation
Age			2.3324
18-23	1	0.3	
24-28	4	1.3	
29-34	15	4.9	
35-39	42	13.7	
40-45	52	16.9	
46-51	97	31.6	
52-57	68	22.1	
58-65	25	8.1	
Over 65	3	1.0	
Gender			1.6862
Female	100	33.0	
Male	203	67.0	
Education			2.7978
High School	104	35.0	
Bachelor	112	37.7	
Master	22	7.4	
PhD	4	1.3	
Other	55	18.5	
Post			4.4253

Lower Level	45	18.0
Administrative	162	64.8
Managers	43	17.2

In total, the average age of employees was between 46 – 51 years old (31.6 percent) followed by the age group of 52 – 57 years old (22.1 percent) and 67 percent were male. Participants had been in their current job and in this organisation for an average of 13.4 years (Std. Deviation = 11.9631). They had an average 17 years of working experience in the public sector (Std. Deviation = 10.3037). Employees participating in this research work for an average of 41.4 hours per week with the minimum value being 39 hours per week and the highest 75 hours per week (Std. Deviation = 10.58257). Last, 37.7 percent of the employees hold a Bachelor Degree and 35 percent hold only a graduation diploma from High School (Apolytirion).

Crosstabs for Demographics

Crosstabulations were conducted in order to compare the demographic data. The analysis indicated that most female employees are between 46-51 years old (28 employees) and between 35-39 years old (27 employees); most male employees are between 46-51 years old (68 employees) and 52-57 years old (48 employees). Female employees over the age of 52 total 18 while 74 male employees are over 52 years old, with male employees having a longer organisation and sector tenure than women. This could be explained by the fact that women retire earlier than men either because they want to take care of their family or because the work-life conflict is greater for them in comparison to male employees.

Further, a Master degree is more common in employees between 35 – 45 years old and older employees have been working in the same organisation (organisation tenure) and in the public sector (sector tenure) for more years. Most managers are above the age of 46 and have a long organisation tenure, indicating that promotions in the public sector come as a result of working experience and tenure.

Moreover, it appears that most women hold a Bachelors degree (46 employees) and most men hold a High School diploma (80 employees) followed by a Bachelors degree (66 employees). It is also presented that out of the four employees holding a PhD degree, in the whole organisation, three of them are male and only one is female. Managerial positions are more popular among males (12 women, 31 men) showing that either the Greek public sector is masculine-driven or that women want to focus their attention on their family. All managers hold a university degree (most of them hold a Bachelors degree) and most lower level employees hold a High School degree, demonstrating that promotions in the public sector can also be based on fair and transparent criteria. Less educated employees and administrative staff work more hours per week.

7.2.2 Measures

Participants indicated their responses, unless otherwise noted, on a five-point Likert-type scale with anchors (1) strongly disagree to (5) strongly agree. Job demands were scored on a 5-point scale ranging from (1) never to (5) always. Total scores on each measure were obtained by averaging across items. The reliability measures, means, standard deviations and intercorrelations among the main variables are illustrated in Table 7-2. As shown, the reliabilities ranged from a low of 0.62 to a high of 0.93. Among these, fourteen out of fifteen are considered acceptable (Nunnally, 1978).

Work Engagement was measured by the Utrecht Work Engagement Scale (UWES-17) ($\alpha = 0.93$) (Schaufeli et al., 2006). Specifically, vigor presents $\alpha = 0.79$, dedication $\alpha = 0.88$ and absorption $\alpha = 0.81$. Sample items are “At my work I feel like bursting with energy”, “At my job, I am very resilient, mentally”, “I am enthusiastic about my job” and “I feel happy when I am working intensely”.

Employee Psychological Ownership was assessed by sixteen items developed by Avey and Avolio (2007). Psychological ownership is divided into two types: the preventative psychological ownership ($\alpha = 0.80$), which is basically linked to the concept of territoriality, and promotive psychological ownership ($\alpha = 0.83$). Specifically, self-efficacy gives $\alpha = 0.60$, accountability $\alpha = 0.40$, belongingness $\alpha = 0.83$ and self-identity $\alpha = 0.56$. Sample items are “I am confident in my ability to contribute to my organisation’s success”, “I would challenge anyone in my organisation if I thought something was done wrong”, “I am totally comfortable being in this organisation”, “I feel being a member in this organisation helps define who I am” and “I feel I need to protect my ideas from being used by others in my organisation”.

Job Satisfaction was indicated through three items ($\alpha = 0.89$) introduced by Cammann et al. (1983). A sample item is “In general, I like my job”.

Affective Commitment was measured by eight items ($\alpha = 0.73$) developed by Meyer et al. (1990). Sample items of affective commitment are “I enjoy

discussing my organisation with people outside it” and “I do not feel emotionally attached to this organisation”.

Perceived Supervisor Support (PSS) was measured by four items ($\alpha = 0.85$) developed by Rhoades et al. (2001). A sample item is “My supervisor cares about my opinions”.

Workload (cited in Bakker et al., 2004), ($\alpha = 0.84$) was based on Karasek’s (1985) job content instrument. The scale includes five items that refer to quantitative, demanding aspects of the job. Examples are “Do you have too much work to do?” “Do you have to work very fast?” and “How often does it occur that you have to work extra hard to finish your work?”.

Mental demands were assessed by the scale developed by Karasek (1979) and included six items ($\alpha = 0.81$). Sample items are “Do you think your job is mentally too demanding?” and “Does your job require your full attention?”.

Emotional demands were based on a scale developed by Van Veldhoven and Meijman (1994) and included four items ($\alpha = 0.82$). Examples are “Does your work put you in emotional situations?” and “Do the people who you meet through your work intimidate you?”.

Emotional dissonance was assessed by 5 items ($\alpha = 0.84$) from the scale of Zapf et al. (1999) such as “During your work, how often do you have to express positive feelings towards your clients while you actually feel indifferent?”

Changes in the organisation were assessed by 7 items ($\alpha = 0.86$) based on a scale developed by Bakker et al. (2003) such as “Do you have to adjust to changes in the organisation?”

Positive work-home interference ($\alpha = 0.77$) and *Negative work-home interference* ($\alpha = 0.9$) were assessed with six items which are a selection of the Dutch questionnaire Survey Work-home Interference Nijmegen (SWING; Wagena and Geurts, 2000). This scale consists of three items for negative

work-home interference and three items for the positive work-home interference.

Social Desirability was measured by ten items ($\alpha = 0.62$) developed by Strahan and Gerbasi (1972). Sample items are “You are always willing to admit it when you make a mistake” and “At times you have really insisted on having things your own way”. The reliability is not particularly high, but Cortina (1993) and Nunnally (1978) suggest that it is sufficient for use in exploratory work, and is only used in this thesis as a mechanism for exploring the potential impacts of social desirability on some analyses.

CMV Indicator was assessed by 6 items ($\alpha = 0.78$).

7.3 Data Analysis and Results

7.3.1 Correlations

This section presents the intercorrelations among the main variables which are illustrated in Table 7-2. Further, the histograms of the constructs were visually inspected based on purely summative construction of the latent scales. This revealed no obvious range restrictions or abnormalities in the distributions of the latent variables.

Work Engagement gives a mean value of 3.7 and it is related positively and significantly to job satisfaction ($r = 0.76^{**}$), perceived supervisor support ($r = 0.41^{**}$), affective commitment ($r = 0.60^{**}$), preventative psychological ownership (territoriality) ($r = 0.12^*$), promotive psychological ownership ($r = 0.63^{**}$), mental demands ($r = 0.32^{**}$), positive work-home interference ($r = 0.26^{**}$), and social desirability ($r = 0.28^{**}$).

Job Satisfaction gives a mean value of 3.96 and it is correlated positively and significantly with work engagement ($r = 0.76^{**}$).

Perceived Supervisor Support (PSS) gives a mean value of 3.69 and it is related positively and significantly with work engagement ($r = 0.41^{**}$) and job satisfaction ($r = 0.40^{**}$).

Affective Commitment gives a mean value of 3.51 and it is correlated positively and significantly with work engagement ($r = 0.60^{**}$), job satisfaction ($r = 0.63^{**}$) and perceived supervisor support ($r = 0.49^{**}$).

CMV Indicator gives a mean value of 3.17 and it is not correlated with any of the above constructs.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Work Engagement	3.70	0.65	(0.93)															
2. Job Satisfaction	3.96	0.80	0.76**	(0.89)														
3. PSS	3.69	0.84	0.41**	0.4**	(0.85)													
4. Aff. Commitment	3.51	0.62	0.60**	0.63**	0.49**	(0.73)												
5. CMV Indicator	3.17	0.74	0.45	0.08	0.10	0.09	(0.78)											
6. Prev. Ownership	2.74	0.88	0.12*	0.08	-0.02	0.02	0.35**	(0.80)										
7. Prom. Ownership	3.75	0.48	0.63**	0.56**	0.46**	0.59**	0.20**	0.22**	(0.83)									
8. Workload	3.29	0.8	0.09	-0.06	-0.09	-0.04	0.002	-0.07	0.07	(0.84)								
9. Ment.Demands	3.76	0.8	0.32**	0.11*	0.19**	0.15**	0.09	0.04	0.34**	0.44**	(0.81)							
10. Emot. Dem.	2.80	0.79	0.04	0.01	-0.04	-0.008	0.08	0.05	0.19**	0.41**	0.3**	(0.82)						
11. Emot. Dissonance	2.60	0.77	-0.09	-0.11*	-0.14*	-0.07	0.12*	0.13*	0.06	0.23**	0.07	0.58**	(0.84)					
12. Org. Changes	2.19	0.74	-0.06	-0.15**	-0.02	-0.06	0	0.02	0.03	0.31**	0.17**	0.26**	0.26**	(0.86)				
13. NWHI	2.26	0.89	-0.07	-0.12*	-0.06	-0.11*	0.14*	0.14*	0.006	0.31**	0.2**	0.38**	0.32**	0.33**	(0.90)			
14. PWHI	2.67	0.8	0.26**	0.19**	0.25**	0.19**	0.07	-0.05	0.35**	0.16**	0.28**	0.16**	0.17**	0.29**	0.28**	(0.77)		
15. Soc. Desirability	2.62	0.45	0.28**	0.19**	0.27**	0.19**	-0.28**	-0.18**	0.22**	-0.03	0.06	-0.12*	-0.23**	-0.14*	-0.26**	0.10	-0.22**	(0.62)

*Note: N= 312, *p< 0.05, **p< 0.01; and reliabilities are in parentheses*

Table 7-2
Means, SD, Reliabilities & Correlations

Preventative Psychological Ownership (Territoriality) gives a mean value of 2.74 and it is related positively and significantly with work engagement ($r = 0.12^*$) and CMV Indicator ($r = 0.35^{**}$).

Promotive Psychological Ownership gives a mean value of 3.75 and it is related positively and significantly with work engagement ($r = 0.63^{**}$), job satisfaction ($r = 0.56^{**}$), perceived supervisor support ($r = 0.46^{**}$), affective commitment ($r = 0.59^{**}$), CMV Indicator ($r = 0.20^{**}$), and preventative psychological ownership (territoriality) ($r = 0.22^{**}$).

Workload gives a mean value of 3.29 and it is not related to any of the work-related attitudes used in this study.

Mental demands give a mean value of 3.76 and they are correlated positively and significantly with work engagement ($r = 0.32^{**}$), job satisfaction ($r = 0.11^*$), perceived supervisor support ($r = 0.19^{**}$), affective commitment ($r = 0.15^{**}$), promotive ownership ($r = 0.34^{**}$), and workload ($r = 0.44^{**}$).

Emotional demands give a mean value of 2.8 and they are correlated positively and significantly with promotive psychological ownership ($r = 0.19^{**}$), workload ($r = 0.40^{**}$) and mental demands ($r = 0.30^{**}$).

Emotional Dissonance gives a mean value of 2.6 and it is related negatively and significantly with job satisfaction ($r = -0.11^*$), perceived supervisor support ($r = -0.14^*$). Emotional Dissonance is positively and significantly related with CMV Indicator ($r = 0.12^*$), preventative ownership ($r = 0.13^*$), workload ($r = 0.23^{**}$) and emotional demands ($r = 0.58^{**}$).

Changes in the organisation give a mean value of 2.19 and are related negatively and significantly with job satisfaction ($r = -0.15^{**}$). Changes in the organisation are correlated positively and significantly with workload ($r = 0.31^{**}$), mental demands ($r = 0.17^{**}$), emotional demands ($r = 0.26^{**}$) and emotional dissonance ($r = 0.26^{**}$).

Negative work-home interference gives a mean value of 2.26 and it is related negatively and significantly with job satisfaction ($r = -0.12^*$) and affective commitment ($r = -0.11^*$). It is positively and significantly correlated with CMV Indicator ($r = 0.14^*$), preventative ownership ($r = 0.14^*$), workload ($r = 0.31^{**}$), mental demands ($r = 0.20^{**}$), emotional demands ($r = 0.38^{**}$), emotional dissonance ($r = 0.32^{**}$) and changes in the organisation ($r = 0.33^{**}$)

Positive work-home interference gives a mean value of 2.67 and it is correlated positively and significantly with work engagement ($r = 0.26^{**}$), job satisfaction ($r = 0.19^{**}$), perceived supervisor support ($r = 0.25^{**}$), affective commitment ($r = 0.19^{**}$), promotive ownership ($r = 0.35^{**}$), workload ($r = 0.16^{**}$), mental demands ($r = 0.28^{**}$), emotional demands ($r = 0.16^{**}$), emotional dissonance ($r = 0.17^{**}$), changes in the organisation ($r = 0.29^{**}$) and negative work-home interference ($r = 0.28^{**}$).

Social Desirability offers a mean value of 2.62 and it is correlated positively and significantly with work engagement ($r = 0.28^{**}$), job satisfaction ($r = 0.19^{**}$), perceived supervisor support ($r = 0.27^{**}$), affective commitment ($r = 0.19^{**}$) and promotive ownership ($r = 0.22^{**}$). Social desirability is also related negatively and significantly with CMV Indicator ($r = -0.28^{**}$), preventative ownership ($r = -0.18^{**}$), emotional demands ($r = -0.12^*$), emotional dissonance ($r = -0.23^{**}$), changes in the organisation ($r = -0.14^*$) and negative work-home interference ($r = -0.26^{**}$).

In general, the results indicate that work engagement and promotive psychological ownership are correlated positively and significantly. The employees' level of engagement and promotive psychological ownership is almost the same. Further, employees seem quite unwilling to defend their organisation (preventative psychological ownership – territoriality). Hence, employees seem to feel a sense of psychological ownership towards their organisation and they also feel engaged.

7.3.2 Analysis of Variance (ANOVA)

A series of ANOVAs were conducted in order to observe whether there is any significant difference between each construct and the control variables. Table 7-3 presents the F values and significances for each construct and each control variable.

Employees' perceptions vary in work engagement as far as their age is concerned. Male employees seem to feel more engaged than females. Employees' work engagement also differs in terms of the working hours per week. However, post hoc tests were not performed. Male employees also seem to feel more satisfied than female employees. Male employees perceive higher levels of supervisor support than females. Male employees also present higher levels of affective commitment than females. Differences were noted in affective commitment and working hours per week but post hoc tests were not performed. Lower level employees appear to feel more affectively committed to the organisation than the administrative employees.

Employees holding a Bachelors and Masters diploma experience higher levels of preventative psychological ownership (territoriality) than those holding a High School diploma. Differences are also noted in preventative psychological ownership and sector tenure and working hours per week but post hoc tests were not performed. Lower level employees seem to experience higher levels of preventative psychological ownership (territoriality) than administrative staff and managers. Differences are noted between promotive psychological ownership and age but post hoc tests were not performed. Males experience higher levels of promotive psychological ownership than females.

A significant difference between workload and age is noted but post hoc tests were not performed. Females experience higher levels of workload than males. Employees holding a High School diploma experience lower levels of workload than Bachelors, Masters and other higher degree holders. Differences also appear between workload and organisational and sector tenure but post hoc tests were not performed. Lower level employees experience lower levels of workload than administrative staff and managers.

Bachelor holders experience higher levels of mental demands than employees holding a High School diploma. Managers experience higher levels of mental demands in comparison to lower level employees. Masters holders experience higher levels of emotional demands than PhD holders. Differences are also observed between emotional demands and sector tenure and working hours per week but post hoc tests were not performed. Significant differences are noted between changes in the organisation and organisational and sector tenure but post hoc tests were not performed.

	Age	Gender	Education	Org. Tenure	Sector Tenure	Working hours/week	Post
Work Engagement	F (8, 296)=1.473, p = 0.17	F (1, 299)=3.950, p= 0.05	F (4, 290) = 1.418, p = 0.23	F (38, 233) = 0.740, p = 0.87	F (39, 260) = 0.850, p = 0.73	F (17, 280) = 1.825, p = 0.03	F (2, 245) = 0.384, p = 0.68
Job Satisfaction	F (8, 296)=0.359, p = 0.94	F (1, 299)=5.595, p= 0.02	F (4, 290) = 2.443, p = 0.05	F (37, 234) = 1.147, p = 0.27	F (39, 260) = 1.378 p = 0.07	F (17, 280) = 1.599, p = 0.06	F (2, 246) = 2.099, p = 0.12
PSS	F (8, 295) = 1.263, p = 0.26	F (1, 298) = 15.758, p= 0.00	F (4, 289) = 1.221, p = 0.30	F (38, 233) = 1.344, p = 0.09	F (39, 259) = 1.027, p = 0.40	F (17, 279) = 0.946, p = 0.52	F (2, 246) = 2.058, p = 0.13
Aff. Commitment	F (8, 293) = 1.394, p = 0.19	F (1, 296) = 3.946, p = 0.05	F (4, 287) = 1.756, p = 0.14	F (38, 231) = 0.877, p = 0.68	F (39, 257) = 1.060, p = 0.38	F (17, 276) = 1.693, p = 0.04	F (2, 243) = 4.157, p = 0.02
CMV Indicator	F (8, 294) = 0.366, p = 0.94	F (1, 297) = 1.345, p = 0.25	F (4, 288) = 3.077, p = 0.02	F (38, 232) = 0.842, p = 0.73	F (39, 258) = 0.920, p = 0.61	F (17, 278) = 1.094, p = 0.36	F (2, 245) = 2.303 p = 0.102
Preventative EPO	F (8, 294) = 1.470, p = 0.17	F (1, 297) = 0.998, p = 0.32	F (4, 289) = 5.421, p = 0.00	F (38, 231) = 1.177, p = 0.23	F (39, 258) = 1.976, p=0.001	F (16, 279) = 1.729, p = 0.04	F (2, 243) = 8.482, p = 0.00
Promotive EPO	F (8, 280) = 2.692, p=0.01	F (1, 283) = 7.307, p=0.01	F (4, 275) = 1.016, p = 0.40	F (39, 219) = 1.093, p = 0.34	F (39, 244) = 1.155, p = 0.25	F (17, 265) = 0.690, p = 0.80	F (2, 234) = 2.146, p = 0.12
Workload	F (8, 294) = 1.733, p = 0.09	F (1, 299) = 9.150, p=0.003	F (4, 289) = 9.041, p = 0.00	F (38, 232) = 2.010, p = 0.001	F (39, 259)= 1.521, p = 0.03	F (17, 279) = 0.829, p = 0.66	F (2, 243) = 9.449, p = 0.00
Mental Demands	F (8, 297)= 0.148, p = 0.99	F (1, 301) = 3.047, p = 0.08	F (4, 292) = 3.265, p = 0.01	F (38, 235) = 1.279, p = 0.14	F (39, 262) = 0.901, p = 0.64	F (17, 282) = 0.752, p = 0.74	F (2, 246) = 2.932, p = 0.05
Emo Demands	F (8, 296) = 0.844, p = 0.56	F (1, 300) = 1.018, p=0.31	F (4, 291) = 2.108, p = 0.08	F (38, 234) = 1.017, p = 0.45	F (39, 261) = 1.519, p = 0.03	F (17, 281) = 1.484, p = 0.09	F (2, 246) = 0.347, p = 0.70
Emo Dissonance	F (8, 294) = 0.480, p = 0.86	F (1, 298) = 0.032, p = 0.86	F (4, 290) = 1.404, p = 0.23	F (38, 232) = 1.370, p = 0.08	F (39, 259) = 1.221, p = 0.18	F (17, 279) = 0.926, p = 0.54	F (2, 244) = 0.321, p = 0.73
Org. Change	F (8, 290) = 1.076, p = 0.38	F (1, 293) = 0.119, p = 0.73	F (4, 284) = 2.381, p=0.05	F (38, 229) = 1.840, p = 0.004	F (39, 255) = 1.515, p = 0.03	F (17, 274) = 1.262, p = 0.21	F (2, 241) = 1.330, p = 0.26
NWHI	F (8, 296) = 1.020, p = 0.42	F (1, 300) = 0.291, p=0.59	F (4, 291) = 0.214, p = 0.93	F (38, 234) = 1.058, p = 0.38	F (39, 261) = 1.280, p = 0.14	F (17, 281) = 1.220, p = 0.25	F (2, 246) = 1.902, p = 0.15
PWHI	F (8, 296) = 0.673, p = 0.72	F (1, 300) = 0.501, p = 0.48	F (4, 291) = 0.494, p = 0.74	F (38, 234) = 1.398, p = 0.07	F (39, 261) = 0.753, p = 0.85	F (17, 281) = 0.886, p = 0.59	F (2, 246) = 0.730, p = 0.48
Soc. Desirability	F (8, 295) = 0.922, p = 0.50	F (1, 299) = 0.770, p=0.38	F (4, 291) = 1.498, p = 0.20	F (38, 234) = 1.045, p = 0.40	F (39, 260) = 1.245, p = 0.16	F (17, 280) = 1.204, p = 0.26	F (2, 244) = 0.020, p = 0.98

Table 7-3
ANOVA

Further to the ANOVA analysis, a regression test took place so as to test whether the demographics could be related to the two main study variables, namely work engagement and employee psychological ownership. Table 7-4 indicates the simultaneous regression analysis between all the demographics and the dependent variables.

Table 7-4
Regression Analysis Testing the Relationship between Demographics and i) Work Engagement (WE) ii) Promotive Ownership iii) Preventative Ownership

Controls	WE	Promotive	Preventative
Age	0.090	0.100	0.190**
Gender	0.090	0.100	-0.040
Education	0.010	-0.080	0.003
Position	-0.130	-0.070	-0.250**
Hours/week	-0.020	0.050	0.070
Firm Tenure	0.120	0.260**	0.160
Industry Tenure	-0.110	-0.120	-0.170
ΔF	1.315	2.341**	2.812**
Adjusted R ²	0.010	0.076	0.050
N	312	312	312

*Note: N = 312, *p < 0.1, **p < 0.05, ***p < 0.01*

Specifically, it seems that work engagement is not related to any of the demographics. Promotive ownership is related positively with firm tenure; preventative ownership (territoriality) is positively related to the employee's age and negatively related to position in the organisation.

7.3.3 Exploratory Factor Analysis (EFA)

The constructs of this study were validated using exploratory (EFA) and confirmatory factor analysis (CFA). This section presents the results of the exploratory factor analysis (EFA). EFA is used when the linkages between the observed and the latent variables are not known and the researcher has no knowledge that the variables measure the intended factors (Byrne, 2013). Therefore, the exploratory analysis decides to what extent the observed variables are related with their underlying factors and observes the minimal number of those underlying factors (Byrne, 2013). The most common approach to deciding the number of underlying factors is to observe the Eigenvalues. Eigenvalues are produced by a process called principal components analysis (PCA) and represent the variance accounted for by each underlying factor. Although the constructs that were used in this research are already validated, the present researcher wishes to observe the way the same validated scales behave within this specific dataset.

Work Engagement: Eigenvalues suggest a three-factor model. However, chi-square becomes less significant with six factors (73.162, $p = 0.0142$) and non-significant with seven factors (48.281, $p = 0.1226$).

Employee Psychological Ownership: Eigenvalues suggest a four-factor model. However, chi-square becomes less significant with five factors (94.359, $p = 0.0002$).

Job satisfaction: It is identified by a one-factor.

Affective Commitment: Eigenvalues suggest a two-factor model. Indeed, chi-square becomes less significant with two factors (21.712, $p = 0.0600$).

Perceived Supervisor Support: It is identified by a one-factor model.

CMV Indicator: It is identified by a one-factor model. The last variable (F6) should perhaps be omitted by the model.

Social Desirability: Eigenvalues suggest a two-factor model. However, chi-square becomes less significant with three factors (33.645, $p = 0.0139$).

Workload: Eigenvalues suggest a one-factor model (chi-square = 15.446, $p = 0.0004$).

Mental demands: Eigenvalues suggest a one-factor model (chi-square = 0.980, $p = 0.6127$).

Emotional demands: Eigenvalues suggest a two-factor model. Indeed, chi-square become non-significant with two factors (1.862, $p = 0.7612$).

Emotional dissonance: Eigenvalues suggest a one-factor model. However, chi-square becomes non-significant with two factors (0.799, $p = 0.3713$).

Changes in the organisation: Eigenvalues suggest a one-factor model. However, chi-square becomes less significant with two factors (30.811, $p = 0.0002$).

Negative and Positive work-home interference are explained by a one-factor model.

Instead of Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) is used when the researcher has some prior knowledge of the underlying latent variable structure, based on the theory or previous empirical research, and thus specifies the number of factors a priori (Byrne, 2013). The results from the Confirmatory Factor Analysis (CFA) are presented next.

7.3.4 Confirmatory Factor Analysis (CFA)

CFA for Work Engagement and Psychological Ownership

Confirmatory Factor Analysis was conducted for all the scales used in this research in order to assess the goodness of fit as discussed earlier (subsection 5.5). The table below demonstrates the results for work engagement and employee psychological ownership. First, the CFA for all seventeen items of work engagement (1 factor) is presented and then separately for each dimension of work engagement (3 factors: vigor, dedication, absorption). Second, for employee psychological ownership CFA is conducted separately for i) preventative ownership (territoriality), ii) promotive ownership for all the items of the four dimensions (1 factor: self-efficacy, self-identity, accountability, belongingness), iii) promotive ownership for the four dimensions (4 factor: self-efficacy, self-identity, accountability, belongingness), iv) for all the items of both preventative and promotive ownership (EPO - 1 factor) and v) for all five dimensions of psychological ownership (EPO – 5 factor). Then, CFA was tested for work engagement and EPO as i) a two-factor model (work engagement and psychological ownership) ii) an eight-factor model (three dimensions for work engagement and five for psychological ownership).

Table 7-5
CFA for Work Engagement (WE) & Employee Psychological Ownership (EPO – all 5 dimensions)

Scale	χ^2	df	p	RMSEA	CFI	TLI	AIC	BIC
WE (1 factor)	628.491*	119	0.0000	0.117	0.823	0.797	12230.823	12421.716
WE (3 factor)	612.516*	116	0.0000	0.117	0.827	0.797	12220.848	12422.970
Preventative Ownership	12.563**	2	0.0019	0.130	0.973	0.920	3391.337	3436.214
Promotive Ownership (1 factor)	309.575*	54	0.0000	0.123	0.793	0.747	7969.854	8104.486
Promotive Ownership (4 factor)	179.709*	48	0.0000	0.094	0.894	0.854	7851.987	8009.058
EPO (1 factor)	855.361*	104	0.0000	0.152	0.571	0.505	11725.938	11905.448
EPO (5 factor)	340.375*	94	0.0000	0.092	0.859	0.820	11230.952	11447.860
WE and EPO (2 factor)	1937.145*	494	0.0000	0.097	0.711	0.691	23772.331	24146.632
WE and EPO (8 factor)	1354.108*	467	0.0000	0.078	0.822	0.799	23243.294	23718.656

*Note: N = 312, *p < 0.001, **p < 0.05; RMSEA = root-mean-square error of approximation; CFI = comparative fit index; TLI = Tucker & Lewis index; AIC = Akaike information criterion; BIC = Bayesian information criterion*

Table 7-5 shows that χ^2 of all the models are significant. However, chi-square is size sensitive so the other fit indices can also be examined (Joreskog, 1993; Marsh et al., 1988; subsection 5.5). It appears that work engagement behaves better as a three factor model (CFI = 0.827, TLI = 0.797) than as a one factor model (all the 17 items together; CFI = 0.823, TLI = 0.797). Also for these two models, the significant difference between the AIC for the 3 factor model (AIC = 12220.848) and the 1 factor model (AIC = 12230.823) has been tested. The relative likelihood of the 1 factor model minimizing the information loss is 0,0068227 as calculated by the quantity $\exp((AIC_{\min} - AIC_i)/2)$ (Akaike, 1980). EPO behaves better as a five factor model (RMSEA = 0.092, CFI = 0.859, TLI = 0.820, AIC = 11230.952, BIC = 11447.860) than as a one factor model (RMSEA = 0.152, CFI = 0.571, TLI = 0.505, AIC = 11725.938, BIC =

11905.448). The relative likelihood of the 1 factor model minimizing the information loss is $3,2746E-108$, showing that employee psychological ownership explains better the data with five factors.

Further, preventative psychological ownership (1 factor; RMSEA = 0.130, CFI = 0.973, TLI = 0.920, AIC = 3391.337, BIC = 3436.214) presents a better fit to the data than the 5 factor model which includes all five dimensions (RMSEA = 0.092, CFI = 0.859, TLI = 0.820, AIC = 11230.952, BIC = 11447.860). The relative likelihood of the 5 factor model minimizing the information loss is 0. Promotive psychological ownership (4 factor; RMSEA = 0.094, CFI = 0.894, TLI = 0.854, AIC = 7851.987, BIC = 8009.058) also presents a better fit to the data than the 5 factor model which includes all five dimensions (RMSEA = 0.092, CFI = 0.859, TLI = 0.820, AIC = 11230.952, BIC = 11447.860). The relative likelihood of the 5 factor model minimizing the information loss is 0. Therefore, they should be measured separately, something which is also consistent with the earlier literature (Avey and Avolio, 2007; see section 2.3). Work engagement and employee psychological ownership explain better the data as an eight factor model (CFI = 0.822, TLI = 0.799, AIC = 23243.294, BIC = 23718.656) in comparison to the 2 factor model (CFI = 0.711, TLI = 0.691, AIC = 23772.331, BIC = 24146.632). The relative likelihood of the 2 factor model minimizing the information loss is $1.3215E-115$. Therefore, the two scales explain the data better when their dimensions (work engagement: vigor, dedication, absorption; psychological ownership: self-efficacy, self-identity, accountability, belongingness, territoriality) are taken into consideration.

Communality among the dimensions of Employee Psychological Ownership

For completeness, this subsection examines the communality between the five dimensions of employee psychological ownership. This communality will encourage the researcher to create a more convergent conceptualization of the construct and will enable the present study to reach a more inclusive idea about employee psychological ownership. Table 7-6 indicates the correlation between the five dimensions of employee psychological ownership.

Table 7-6
Communality among the dimensions of Employee Psychological Ownership (EPO)

	Self- efficacy	Self- identity	Belongingness	Accountability	Territoriality
Self-efficacy	1	0.657***	0.654***	0.623***	0.568***
Self-identity	0.657***	1	0.850***	0.662***	0.547***
Belongingness	0.654***	0.850***	1	0.591***	0.475***
Accountability	0.623***	0.662***	0.591***	1	0.466***
Territoriality	0.568***	0.547***	0.475***	0.466***	1

*Note: N = 312, *p < 0.1, **p < 0.05, ***p < 0.01*

The findings demonstrate that all five dimensions correlate with each other. Territoriality, which forms the preventative ownership, also correlates with all the four dimensions which shape the promotive type of psychological ownership. This implies that all five dimensions move towards the same direction and if an increase or decrease in one of them is noted, the same is expected to happen with the rest as well. Factors that are likely to influence in a certain way the dimensions of promotive ownership (the first four in the table) are expected to influence territoriality in the same way. The high degree of collinearity between these subscales is consistent with the implementation of the employee psychological ownership scale discussed earlier (section 2.3).

Confirmatory Factor Analysis (CFA) of the Study Measures

Table 7-7 below demonstrates the results of the CFA analysis which is conducted for all the variables used in this study. Each scale is examined separately in order to see if the scales fit the data.

Table 7-7
Confirmatory Factor Analysis (CFA) of the Study Measures

Scale	χ^2	df	p	RMSEA	CFI	TLI	AIC	BIC
Job Satisfaction	0.000	0	0.0000	0.000	1.000	1.000	1897.101	1930.788
Perceived Supervisor Support	6.393**	2	0.0409	0.084	0.993	0.979	2936.692	2981.608
Affective Commitment	137.177*	20	0.0000	0.137	0.824	0.754	6863.601	6953.433
CMV Indicator	93.534*	9	0.0000	0.174	0.854	0.756	5106.814	5174.188
Social Desirability	373.201*	35	0.0000	0.176	0.340	0.152	8129.548	8241.742

Note: $N = 312$, * $p < 0.001$, ** $p < 0.05$; RMSEA = root-mean-square error of approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

Table 7-7 indicates fit measures for job satisfaction consistent with the use of a just identified model of job satisfaction. The chi-square statistics appear to be consistent with the sample size ($N = 312$) (Joreskog, 1993; Marsh et al., 1988; subsection 5.5). It is also worth looking at RMSEA, CFI and TLI. RMSEA for affective commitment is 0.137. Perceived supervisor support ($\chi^2 = 6.393$, $p = 0.0409$, RMSEA = 0.084 – fair fit, CFI = 0.993 and TLI = 0.979 both close to 1) presents a good fit.

Confirmatory Factor Analysis (CFA) of Job Demands

Table 7-8 below demonstrates the results of the CFA for all the job demands used in this study in order to evaluate the fit of the model to the data. Each scale of job demand is tested separately and at the end all the items for all job demands are inserted together (All demands).

Table 7-8
Confirmatory Factor Analysis (CFA) of Job Demands

Scale	χ^2	df	p	RMSEA	CFI	TLI	AIC	BIC
Workload	15.446**	2	0.0004	0.147	0.973	0.918	3003.355	3048.233
Mental Demands	0.980	2	0.6127	0.000	1.000	1.007	3130.164	3175.041
Emotional Demands	180.224*	9	0.0000	0.247	0.780	0.633	5029.084	5096.400
Emotional Dissonance	45.622	5	0.0000	0.162	0.933	0.866	3792.788	3848.885
Organisation Changes	119.620*	14	0.0000	0.156	0.887	0.831	5290.447	5368.983
Negative Work-Home Interference	0.000	0	0.000	0.000	1.000	1.000	2018.326	2051.955
Positive Work-Home Interference	0.000	0	0.000	0.000	1.000	1.000	2281.854	2315.512
All Demands	3495.557*	464	0.0000	0.145	0.375	0.332	26536.167	26895.187

Note: $N = 312$, $*p < 0.001$, $**p < 0.05$; RMSEA = root-mean-square error of approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

Results illustrate that CFA for mental demands gives a good fit $\chi^2 = 0.980$, $p = 0.6127$ (non-significant). Workload also presents a good fit to the data ($\chi^2 = 15.446$, $p = 0.0004$) and CFI (0.973) and TLI (0.918) are close to 1.00 (Byrne, 2013). Negative and positive work-home interference presents a perfect fit (NWHI, PWHI). The rest of the job demands show a poor fit to the data when χ^2 is taken into consideration. However, because chi-square is size sensitive the other fit indices can also be examined (Joreskog, 1993; Marsh et al., 1988; subsection 5.5). Specifically, CFI and TLI seem quite good for emotional dissonance (CFI = 0.933, TLI = 0.866) and changes in the organisation (CFI = 0.887, TLI = 0.831). CFA for all the job demands offers quite a poor fit to the data showing that this model does not fit the data well ($\chi^2 = 3495.557$, $p = 0.000$; CFI = 0.375 and TLI = 0.332).

7.3.5 Structural Equation Modeling (SEM)

The current subsection used the structural equation modelling (SEM) approach in order to test the suggested structural models and the hypotheses presented in chapters 2 and 3. As discussed earlier (subsection 5.5), structural equation modelling will analyse the causal processes in the structural equations and will also estimate the measurement errors in the dependent and independent latent variables (Byrne, 2013; Geiser, 2012). Each structural model is presented separately. At the beginning, the beta scores or estimates are provided and subsequently the diagrams of the same relationships are demonstrated using the MPlus diagram program. In the diagrams, a circle represents the unobserved latent factors, square represents the observed variables, the single-headed arrow represents the impact of one variable on another and the double-headed arrow represents the covariances or correlations between pairs of variables (Byrne, 2013).

SEM for Work Engagement and Employee Psychological Ownership

As hypothesized earlier in this research, employee psychological ownership is positively and significantly related to work engagement. Table 7-9 illustrates the positive and significant effect of employee psychological ownership on work engagement. Promotive ownership is more strongly related to work engagement ($\beta = 1.758$, $p = 0.000$) in comparison to preventative ownership (territoriality) ($\beta = 0.085$, $p = 0.068$). Hence, the null hypotheses $H1_0$ and $H2_0$ are rejected and the $H1_1$ and $H2_1$ are confirmed.

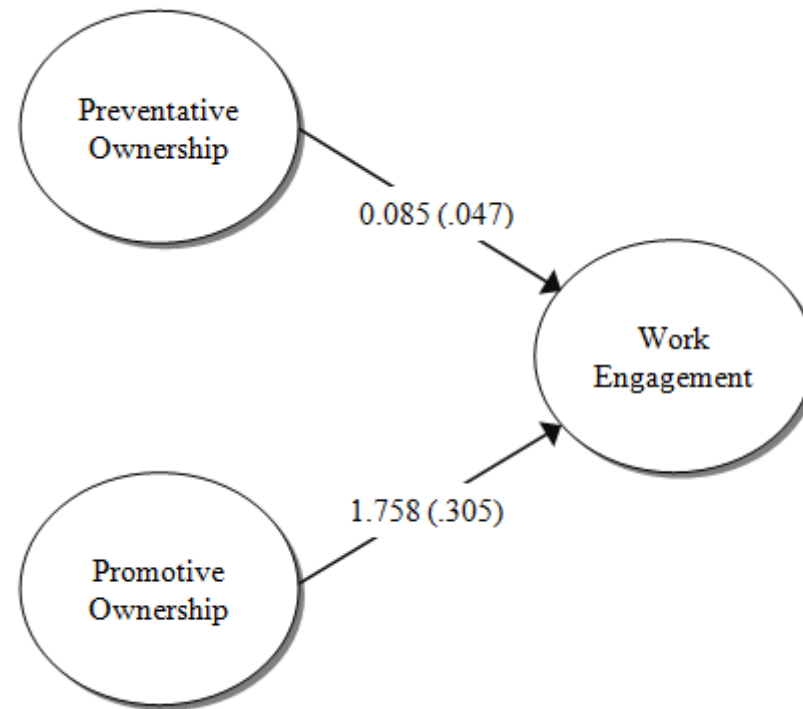
Table 7-9
SEM for Work Engagement and Employee Psychological Ownership

<i>Work Engagement ON</i>	Estimate	S.E.	Est./S.E.	P-Value
Promotive Ownership	1.758***	0.305	5.761	0.000
Preventative Ownership	0.085*	0.047	1.822	0.068

*Note: N = 312, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$*

Figure 7-1: Model Specification for i) Work Engagement and Promotive (Full Model in Appendix 7-1 (i))

,ii) Work Engagement and Preventative Psychological Ownership (Full Model in Appendix 7-1 (ii))



SEM for Work Engagement and the Study Variables

Table 7-10 below shows the effect of the affective commitment and job satisfaction on work engagement. It seems that affective commitment ($\beta = 0.520$, $p = 0.000$), job satisfaction ($\beta = 0.699$, $p = 0.000$) and perceived supervisor support ($\beta = 0.414$, $p = 0.000$) are positively and significantly related to work engagement.

Table 7-10
SEM for Work Engagement and Affective Commitment, Job Satisfaction

<i>Work Engagement ON</i>	Estimate	S.E.	Est./S.E.	P-Value
Affective Commitment	0.520***	0.048	10.847	0.000
Job Satisfaction	0.699***	0.057	12.218	0.000
Perceived Supervisor Support	0.414***	0.057	7.211	0.000

*Note: N = 312, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; Dependent Variable: Work Engagement*

SEM for Work Engagement and Job Demands

Table 7-11 summarizes the results of tests of H3. The analyses look at three hindrance demands and four challenge demands separately. The hindrance demands are emotional demands, emotional dissonance and negative work-home interference. The challenge demands are workload, mental demands, changes in the organisation and positive work-home interference. Emotional demands ($\beta = 0.072$, $p = 0.099$) are positively related to work engagement, contrary to the expectations that these hindrance demands would be negatively related to work engagement. Emotional dissonance, which is another hindrance demand, ($\beta = -0.099^*$, $p = 0.068$) is positively related to work engagement. No relationship is identified for negative work-home interference or for work engagement. Also, mental demands ($\beta = 0.277$, $p = 0.000$), and positive work-home interference, which are challenge demands, are positively related to work engagement ($\beta = 0.235$, $p = 0.000$). However, workload and changes in the organisation, which are both challenge demands, appear unrelated to work engagement. The fact that these three types of demands (mental demands, emotional demands and positive work-home interference)

are positively related to work engagement suggests that not all demands are bad, something which is actually consistent with the literature as discussed earlier in this research (section 4.2.3) (Podsakoff et al., 2007; LePine et al., 2005). The fact that work engagement is not related to more job demands could be also explained by the literature. That said, Schaufeli and Bakker (2004) concluded that job demands are not necessarily related to work engagement. Therefore, there are inconclusive results about hindrance demands and work engagement (H3.1) but there is some support for the hypothesis about challenge demands and work engagement (H3.2).

Table 7-11
SEM for Work Engagement and Job Demands

<i>Work Engagement ON</i>	Estimate	S.E.	Est./S.E.	P-Value
<i>Hindrance Demands</i>				
Emotional Demands	0.072*	0.044	1.649	0.099
Emotional Dissonance	-0.099*	0.054	-1.822	0.068
Negative Work-Home Interference	-0.058	0.043	-1.349	0.177
<i>Challenge Demands</i>				
Workload	0.089	0.064	1.389	0.165
Mental Demands	0.277***	0.050	5.528	0.000
Emotional Demands	0.072*	0.044	1.649	0.099
Changes in organisation	-0.101	0.080	-1.250	0.211
Positive Work-Home Interference	0.235***	0.053	4.440	0.000
<i>Note: N = 312, *p < 0.1, **p < 0.05, ***p < 0.01; Dependent Variable: Work Engagement</i>				

SEM for Promotive Psychological Ownership and the Study Variables

This subsection tests the hypothesized causal relationship between promotive and preventative psychological ownership and affective commitment, job satisfaction and perceived supervisor support. Table 7-12 shows that promotive psychological ownership is positively and significantly related to affective commitment ($\beta = 3.198$, $p = 0.000$) and job satisfaction ($\beta = 2.264$, $p = 0.000$).

Table 7-12
SEM for Promotive Psychological Ownership and Affective Commitment, Job Satisfaction

<i>Psychological Ownership</i>	Estimate	S.E.	Est./S.E.	P-Value
Affective Commitment ON				
Promotive Ownership	3.195***	0.542	5.898	0.000
Job Satisfaction ON				
Promotive Ownership	2.264***	0.409	5.535	0.000

*Note: N = 312, *p < 0.1, **p < 0.05, ***p < 0.01; Dependent Variable: Study Variables; Independent Variable: Promotive Ownership*

Table 7-13 shows that perceived supervisor support is positively and significantly related to promotive psychological ownership ($\beta = 0.192$, $p = 0.000$).

Table 7-13
SEM for Promotive Psychological Ownership and Perceived Supervisor Support

Perceived Supervisor Support ON	Estimate	S.E.	Est./S.E.	P-Value
Promotive Ownership	0.192***	0.036	5.388	0.000

*Note: N = 312, *p < 0.1, **p < 0.05, ***p < 0.01; Dependent Variable: Perceived Supervisor Support; Independent Variable: Promotive Ownership*

SEM for Promotive Psychological Ownership and Job Demands

Table 7-14 summarizes the results of tests of H4. Promotive psychological ownership is positively and significantly related to emotional demands ($\beta = 0.067$, $p = 0.001$), which are considered hindrance demands and were expected to be negatively related to promotive psychological ownership. Also, emotional dissonance and negative work-home interference are not related to promotive psychological ownership. Promotive psychological ownership is also positively and significantly related to mental demands ($\beta = 0.117$, $p = 0.000$) and positive work-home interference ($\beta = 0.131$, $p = 0.000$), which are both challenge demands. Workload and changes in the organisation are not related to promotive psychological ownership. The results about H4.1 are inconclusive while there is some support for H4.2.

Table 7-14
SEM for Promotive Psychological Ownership and Job Demands

<i>Promotive Ownership ON</i>	Estimate	S.E.	Est./S.E.	P-Value
<i>Hindrance Demands</i>				
Emotional Demands	0.067***	0.021	3.195	0.001
Emotional Dissonance	0.012	0.023	0.515	0.607
Negative Work-Home Interference	-0.002	0.018	-0.109	0.913
<i>Challenge Demands</i>				
Workload	0.029	0.024	1.177	0.239
Mental Demands	0.117***	0.027	4.391	0.000
Changes in organisation	-0.008	0.033	-0.237	0.812
Positive Work-Home Interference	0.131***	0.029	4.455	0.000

*Note: N = 312, *p < 0.1, **p < 0.05, ***p < 0.01; Dependent Variable: Promotive Psychological Ownership; Independent Variables: Job Demands*

7.3.6 Mediation Analysis

In this subsection, the results regarding the structural relationships of the studied variables are considered in order to identify the extent to which they support the hypotheses developed earlier in Chapter 4. Mediation analysis is used to test the theoretical linkages among the study variables and increase the understanding of the mechanisms underlying them (MacKinnon, 2008). The following models are estimated to test H5, H6 and H7. The results related to the mediating effects are presented to inform the appropriate structural models for testing the hypotheses associated with the path relationships.

Specifically, the hypotheses were tested through a nested-models comparison using the significance test of chi-square difference, based on the number of degrees of freedom. The baseline model represents a partially mediating model where the paths from the independent to both the mediator and the outcome are estimated freely. The alternative model suggests a complete mediation and hence, the direct effects from the independent to the dependent/outcome were constrained. The null hypothesis that the constrained and unconstrained models fit equally well is tested. Rejection of this null hypothesis is consistent with the conclusion that the partial mediation model fits better than the full mediation model. Where we fail to reject the null hypothesis we conclude that there is evidence for mediation (Frazier et al., 2004).

Mediation Effects with Job Demands

Mental Demands

Promotive ownership mediates the relationship between mental demands and work engagement ($\beta = 0.197$, $p = 0.000$) supporting H5. To further test this mediating effect of promotive ownership on mental demands and work engagement, a nested model comparison was used. In table 7-15 the fit of the predictor-mediator-outcome variable is compared with and without the direct path from the independent (mental demands) to the dependent variable (work engagement) constrained to zero.

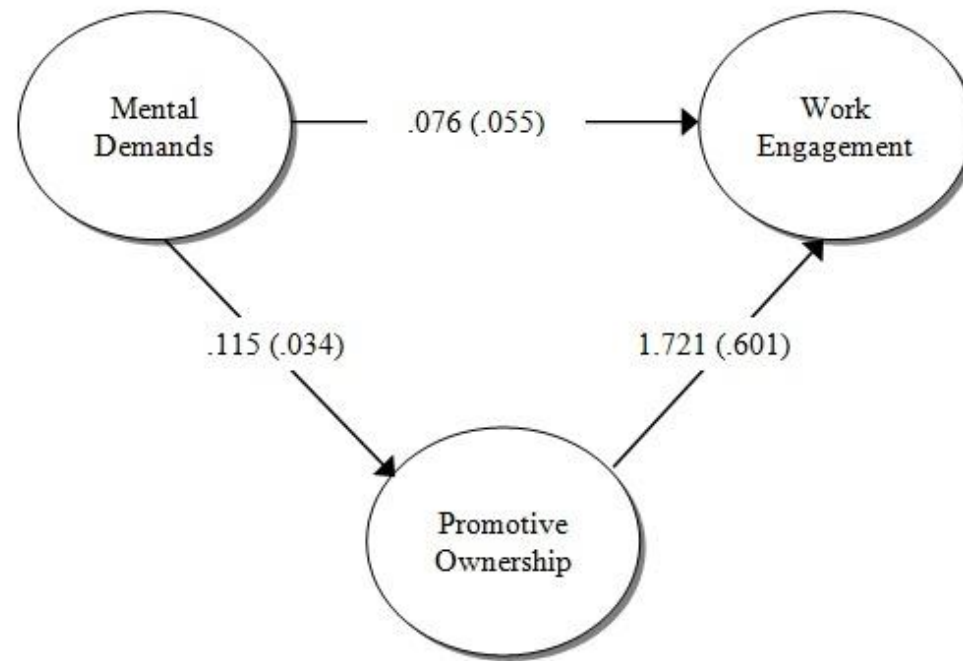
Table 7-15
A Comparison of Structural Equation Models
Testing Promotive Ownership Mediating Mental Demands and Work Engagement Relationship

Model	Factors	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
Model 1 <i>Baseline</i>	Partial mediation Mental Demands → PromOwn → WE Mental Demands → WE	1384.990 **	485	-	0.077	0.820	0.804
Model 2	Complete mediation Mental Demands → PromOwn → WE Mental Demands → WE being constrained to zero	1388.702 **	486	3.712	0.077	0.819	0.804

Note: $N = 312$, ** $p < 0.001$, * $p < 0.05$; $\Delta\chi^2$ = difference in χ^2 values between models; RMSEA = root-mean-square approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

As shown in Table 7-15, the difference between the chi-squares was not significant ($\Delta\chi^2 (\Delta df = 1) = 3.712$). This suggests a complete mediation model (Model 2), in which mental demands are linked to work engagement through promotive ownership, when compared with a partial mediation model (Model 1) where mental demands have both a direct link to work engagement and an indirect relationship through promotive ownership. The results suggest that the complete mediation model best fits the data and, hence, that promotive ownership mediates the relationship between mental demands and work engagement, therefore supporting H5.

Figure 7-2: Model Specification for Promotive Ownership Mediating Mental Demands and Work Engagement Relationship (Full Model in Appendix 7-2)



Emotional Demands

Promotive ownership mediates positively the relationship between emotional demands and work engagement ($\beta = 0.126$, $p = 0.004$) supporting H5. To further test this mediating effect of promotive ownership on emotional demands and work engagement, a nested model comparison was used. In table 7-16 the fit of the predictor-mediator-outcome variable is compared with and without the direct path from the independent (emotional demands) to the dependent variable (work engagement) constrained to zero.

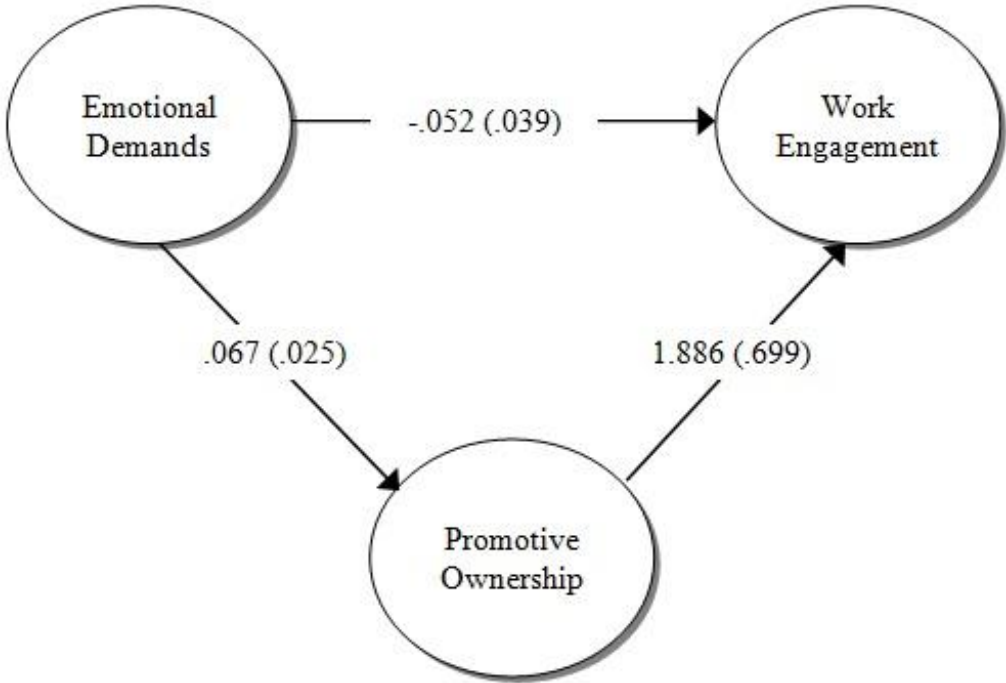
Table 7-16
A Comparison of Structural Equation Models
Testing Promotive Ownership Mediating Emotional Demands and Work Engagement Relationship

Model	Factors	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
Model 1 <i>Baseline</i>	Partial mediation Emotional Demands \rightarrow PromOwn \rightarrow WE Emotional Demands \rightarrow WE	1627.411 **	550	-	0.079	0.797	0.780
Model 2	Complete mediation Emotional Demands \rightarrow PromOwn \rightarrow WE Emotional Demands \rightarrow WE being constrained to zero	1629.757**	551	2.346	0.079	0.796	0.780

Note: $N = 312$, $**p < 0.001$, $*p < 0.05$; $\Delta\chi^2$ = difference in χ^2 values between models; RMSEA = root-mean-square approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

As shown in Table 7-16, the difference between the chi-squares was not significant ($\Delta\chi^2$ ($\Delta df = 1$) = 2.346). This suggests a complete mediation model (Model 2), in which emotional demands are linked to work engagement through promotive ownership, when compared with a partial mediation model (Model 1) where emotional demands have both a direct link to work engagement and an indirect relationship through promotive ownership. The results suggest that the complete mediation model best fits the data and, hence, that promotive ownership mediates the relationship between emotional demands and work engagement, therefore supporting H5.

Figure 7-3: Model Specification for Promotive Ownership Mediating Emotional Demands and Work Engagement Relationship (Full Model in Appendix 7-3)



Positive work-home interference (PWHI)

Promotive Ownership mediates the relationship between positive work-home interference (PWHI) and work engagement ($\beta = 0.236$, $p = 0.000$) supporting H5. To further test this mediating effect of promotive ownership on positive work-home interference (PWHI) and work engagement, a nested model comparison was used. In table 7-17 the fit of the predictor-mediator-outcome variable is compared with and without the direct path from the independent (positive work-home interference) to the dependent variable (work engagement) constrained to zero.

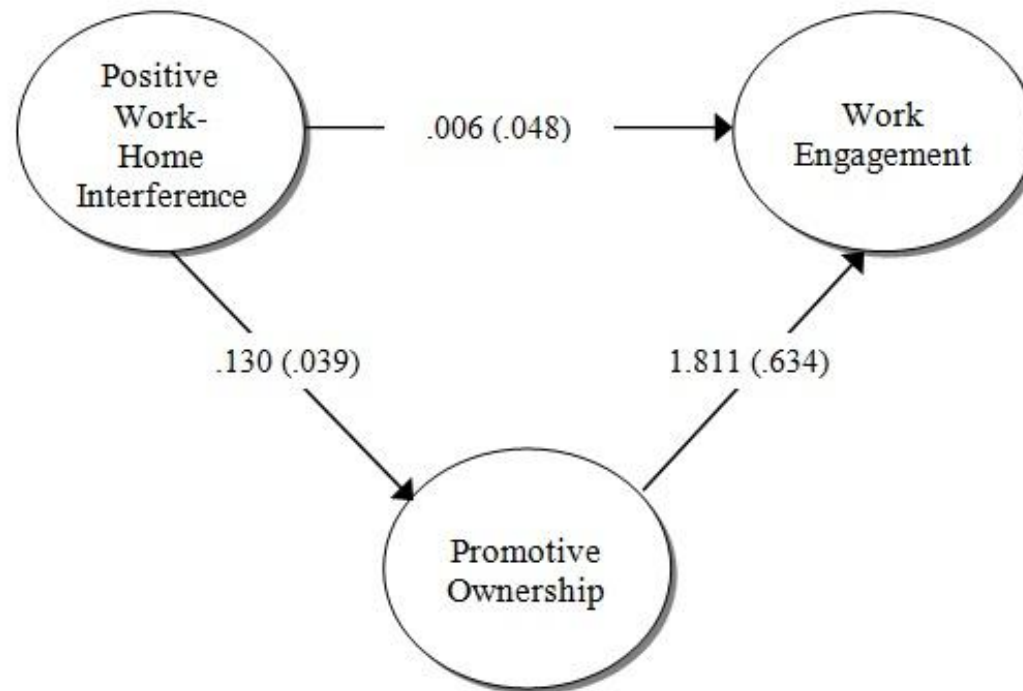
Table 7-17
A Comparison of Structural Equation Models
Testing Promotive Ownership Mediating Positive Work-Home Interference and Work Engagement Relationship

Model	Factors	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
Model 1 <i>Baseline</i>	Partial mediation PWHI → PromOwn → WE PWHI → WE	1341.936**	454	-	0.079	0.816	0.799
Model 2	Complete mediation PWHI → PromOwn → WE PWHI → WE being constrained to zero	1341.953**	455	0.017	0.079	0.817	0.800

Note: $N = 312$, ** $p < 0.001$, * $p < 0.05$; $\Delta\chi^2$ = difference in χ^2 values between models; RMSEA = root-mean-square approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

As shown in Table 7-17, the difference between the chi-squares was not significant ($\Delta\chi^2$ ($\Delta df = 1$) = 0.017). This suggests a complete mediation model (Model 2), in which PWHI is linked to work engagement through promotive ownership, when compared with a partial mediation model (Model 1) where PWHI has both a direct link to work engagement and an indirect relationship through promotive ownership. The results suggest that the complete mediation model best fits the data and, hence, that promotive ownership mediates the relationship between PWHI and work engagement, therefore supporting H5. No mediation effect was noted for the other job demands.

Figure 7-4: Model Specification for Promotive Ownership Mediating Positive Work-Home Interference and Work Engagement Relationship (Full Model in Appendix 7-4)



Affective Commitment

Affective commitment mediates the relationship between promotive ownership and work engagement ($\beta = 1.391$, $p = 0.019$) supporting H6. The literature views organisational commitment as an outcome of psychological ownership and this finding is consistent with earlier findings. To further test this mediating effect of affective commitment on promotive ownership and work engagement, a nested model comparison was used. In table 7-18 the fit of the predictor-mediator-outcome variable is compared with and without the direct path from the independent (promotive ownership) to the dependent variable (work engagement) constrained to zero.

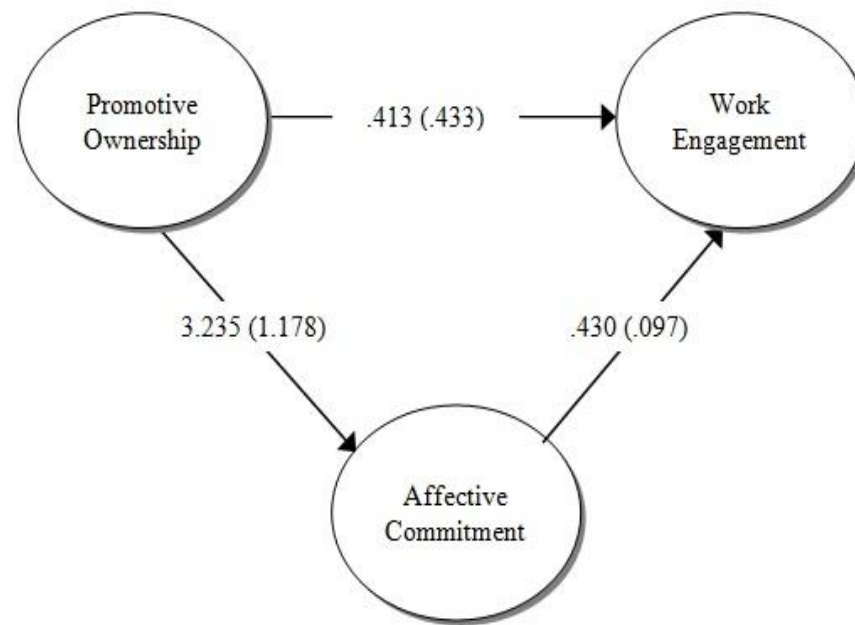
Table 7-18
A Comparison of Structural Equation Models
Testing Affective Commitment Mediating Promotive Ownership and Work Engagement Relationship

Model	Factors	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
Model 1 <i>Baseline</i>	Partial mediation PromOwn → Affective Commitment → WE PromOwn → WE	1695.515**	619	-	0.075	0.807	0.792
Model 2	Complete mediation PromOwn → Affective Commitment → WE PromOwn → WE being constrained to zero	1697.276**	620	1.761	0.075	0.807	0.792

Note: $N = 312$, ** $p < 0.001$, * $p < 0.05$; $\Delta\chi^2$ = difference in χ^2 values between models; RMSEA = root-mean-square approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

As shown in Table 7-18, the difference between the chi-squares was not significant ($\Delta\chi^2$ ($\Delta df = 1$) = 1.761). This suggests a complete mediation model (Model 2), in which promotive ownership is linked to work engagement through affective commitment, when compared with a partial mediation model (Model 1) where promotive ownership has both a direct link to work engagement and an indirect relationship through affective commitment. The results suggest that the complete mediation model best fits the data and, hence, that affective commitment mediates the relationship between promotive ownership and work engagement, therefore supporting H6.

Figure 7-5: Model Specification for Affective Commitment Mediating Promotive Ownership and Work Engagement Relationship (Full Model in Appendix 7-5)



Job Satisfaction

Job Satisfaction mediates the relationship between promotive ownership and work engagement ($\beta = 1.333$, $p = 0.021$) supporting H7. Job satisfaction is seen in the literature as an outcome of psychological ownership, hence this finding is consistent with the literature. To further test this mediating effect of job satisfaction on promotive ownership and work engagement, a nested model comparison was used. In table 7-19 the fit of the predictor-mediator-outcome variable is compared with and without the direct path from the independent (promotive ownership) to the dependent variable (work engagement) constrained to zero.

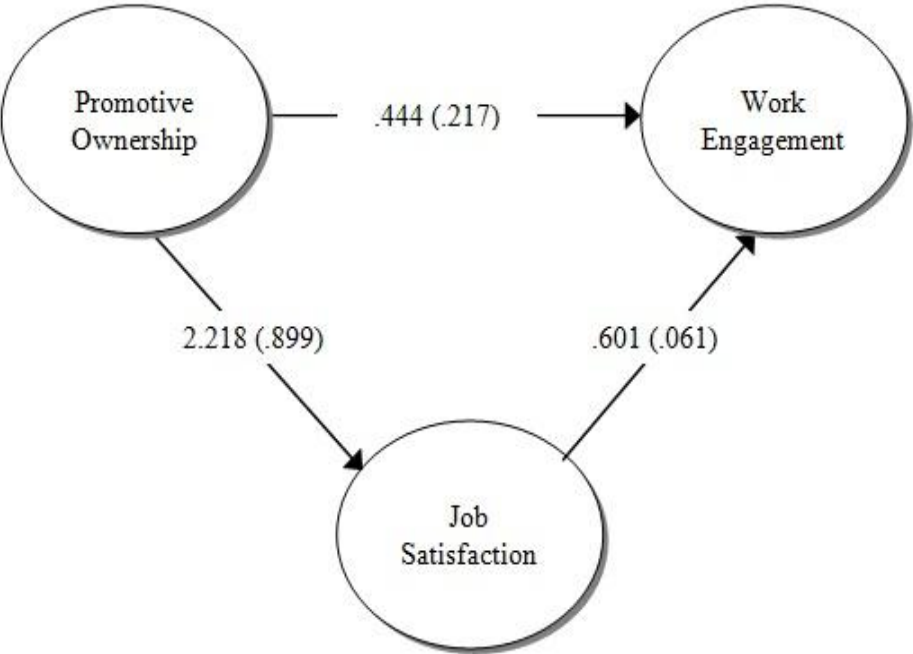
Table 7-19
A Comparison of Structural Equation Models
Testing Job Satisfaction Mediating Promotive Ownership and Work Engagement Relationship

Model	Factors	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
Model 1 <i>Baseline</i>	Partial mediation PromOwn → Job Satisfaction → WE PromOwn → WE	1418.559 **	454	-	0.083	0.825	0.809
Model 2	Complete mediation PromOwn → Job Satisfaction → WE PromOwn → WE being constrained to zero	1429.207 **	455	10.648*	0.083	0.823	0.807

Note: $N = 312$, ** $p < 0.001$, * $p < 0.05$; $\Delta\chi^2$ = difference in χ^2 values between models; RMSEA = root-mean-square approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

As shown in Table 7-19, the difference between the chi-squares was significant ($\Delta\chi^2$ ($\Delta df = 1$) = 10.648). This suggests a partial mediation model (Model 1), in which promotive ownership has both a direct link to work engagement and an indirect relationship through job satisfaction when compared with a complete mediation model where promotive ownership is linked to work engagement through job satisfaction (Model 2). The results suggest that the partial mediation model best fits the data and, hence, that job satisfaction mediates partially the relationship between promotive ownership and work engagement, therefore supporting partially H7.

Figure 7-6: Model Specification for Job Satisfaction Mediating Promotive Ownership and Work Engagement Relationship (Full Model in Appendix 7-6)



Affective Commitment and Job Satisfaction as Mediators in the Promotive Psychological Ownership and Work Engagement Relationship

Job satisfaction and affective commitment, when in the same model, mediate the relationship between promotive ownership and work engagement ($\beta = 2.200$, $p = 0.026$). To further test the mediating effect of job satisfaction and affective commitment, a nested model comparison was used. In table 7-20 the fit of the predictors-mediators-outcome variable is compared with and without the direct path from the independent (promotive psychological ownership) to the dependent variable (work engagement) constrained to zero.

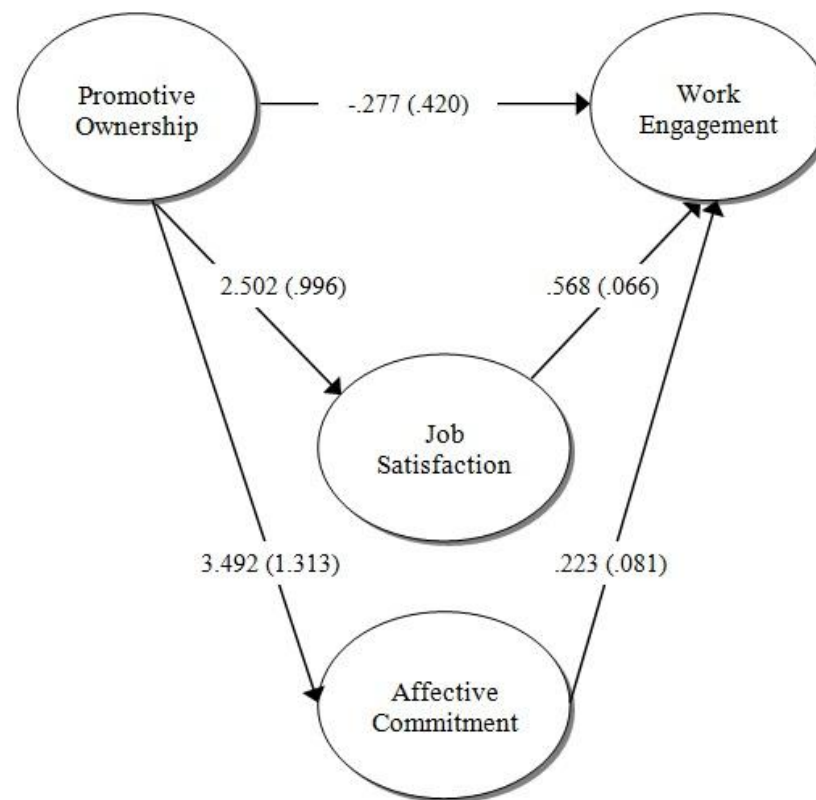
Table 7-20
A Comparison of Structural Equation Models
Testing Job Satisfaction & Affective Commitment Mediating Promotive Ownership and Work Engagement Relationship

Model	Factors	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
Model 1 <i>Baseline</i>	Partial mediation PromOwn → JS, AffCom → WE PromOwn → WE	1995.036 **	728	-	0.075	0.810	0.796
Model 2	Complete mediation PromOwn → JS, AffCom → WE PromOwn → WE being constrained to zero	1995.941 **	729	0.905	0.075	0.810	0.797

Note: $N = 312$, $**p < 0.001$, $*p < 0.05$; $\Delta\chi^2$ = difference in χ^2 values between models; RMSEA = root-mean-square approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

As shown in Table 7-20, the difference between the chi-squares was not significant ($\Delta\chi^2$ ($\Delta df = 1$) = 0.905). This suggests a complete mediation model (Model 2), in which promotive ownership is linked to work engagement through job satisfaction and affective commitment, when compared with a partial mediation model (Model 1) where promotive ownership has both a direct link to work engagement and an indirect relationship through job satisfaction and affective commitment. The results suggest that the complete mediation model best fits the data and, hence, that job satisfaction and affective commitment mediate the relationship between promotive ownership and work engagement. By multiplying the path estimates with the standardized path estimates from promotive psychological ownership to work engagement for each mediator, it is shown that job satisfaction as a mediator is twice as strong as affective commitment.

Figure 7-7: Model Specification for Job Satisfaction & Affective Commitment Mediating Promotive Ownership and Work Engagement Relationship (Full Model in Appendix 7-7)



Perceived Supervisor Support

Promotive ownership also mediates the relationship between Perceived Supervisor Support (PSS) and work engagement ($\beta = 0.338$, $p = 0.000$), thus supporting H8. To further test this mediating effect of promotive ownership on perceived supervisor support and work engagement, a nested model comparison was used. In table 7-21 the fit of the predictor-mediator-outcome variable is compared with and without the direct path from the independent (perceived supervisor support) to the dependent variable (work engagement) constrained to zero.

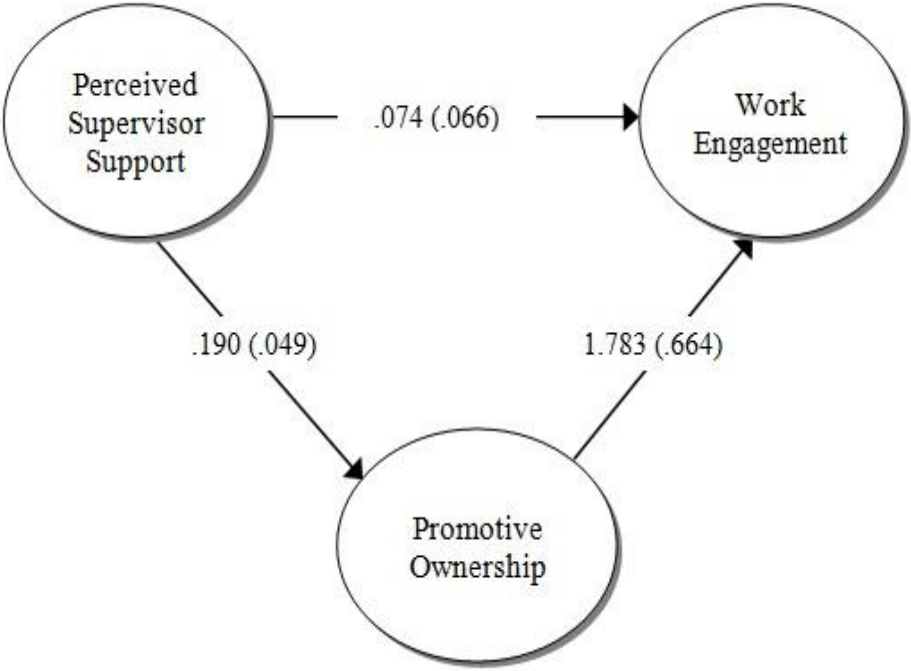
Table 7-21
A Comparison of Structural Equation Models
Testing Promotive Ownership Mediating Perceived Supervisor Support (PSS)
and Work Engagement Relationship

Model	Factors	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI
Model 1 <i>Baseline</i>	Partial mediation PSS → PromOwn → WE PSS → WE	1421.942**	485	-	0.079	0.823	0.807
Model 2	Complete mediation PSS → PromOwn → WE PSS → WE being constrained to zero	1424.089**	486	2.147	0.079	0.823	0.807

Note: $N = 312$, ** $p < 0.001$, * $p < 0.05$; $\Delta\chi^2$ = difference in χ^2 values between models; RMSEA = root-mean-square approximation; CFI = comparative fit index; TLI = Tucker & Lewis index

As shown in Table 7-21, the difference between the chi-squares was not significant ($\Delta\chi^2$ ($\Delta df = 1$) = 2.147). This suggests a complete mediation model (Model 2), in which perceived supervisor support is linked to work engagement through promotive ownership, when compared with a partial mediation model (Model 1) where perceived supervisor support has both a direct link to work engagement and an indirect relationship through promotive ownership. The results suggest that the complete mediation model best fits the data and, hence, that promotive ownership mediates the relationship between perceived supervisor support and work engagement, therefore supporting H8.

Figure 7-8: Model Specification for Promotive Ownership Mediating Perceived Supervisor Support (PSS) and Work Engagement Relationship (Full Model in Appendix 7-8)



Discriminant analysis

Assessment of the discriminant validity of promotive psychological ownership, preventative psychological ownership (territoriality), work engagement, job satisfaction and affective commitment was conducted. Since these constructs are all conceptually related and are all rated by the employees, discriminant analysis will assess their distinctiveness. Discriminant validity refers to the extent to which the indicators representing a latent variable discriminate, or else are not highly correlated with the indicators representing other latent variables (Brown, 2014). The items used to construct promotive psychological ownership, preventative psychological ownership (territoriality), work engagement, affective commitment and job satisfaction measures were evaluated using confirmatory factor analysis, and the results from non-nested model comparison based on the Akaike information criterion (AIC) indicate that a five-factor model is a better fit to the data, thus supporting the distinctiveness of promotive psychological ownership, preventative psychological ownership (territoriality), work engagement, job satisfaction and affective commitment (Table 7-22). In addition, in table 7-22 the fit of the five-factor model is compared with the fit of the other models. As shown in table 7-22, the difference between the chi-squares was significant. Therefore, the five-factor model fits the data significantly better than the other competing models, thus supporting H9.

	Model description	χ^2	df	$\Delta\chi^2$	RMSEA	CFI	TLI	AIC	BIC
Model A	<i>Five-factor model</i>								
Model A1	PromOwn - PrevOwn – WE – AC – JS	2406.222	892	-	0.074	0.790	0.777	31488.505	32020.011
Model B	<i>Four-factor model</i>								
Model B1	(PromOwn + PrevOwn) – WE - AC - JS	2779.020	896	372.798*	0.082	0.739	0.724	31853.302	32369.837
Model B2	(PromOwn + WE) – PrevOwn – AC - JS	2809.473	896	403.251*	0.083	0.735	0.720	31883.756	32400.290
Model B3	(PromOwn + AC) – PrevOwn - WE - JS	2474.171	896	67.949*	0.075	0.781	0.769	31548.454	32064.988
Model B4	(PromOwn + JS) – PrevOwn – WE - AC	2690.422	896	284.2*	0.080	0.751	0.737	31764.704	32281.239
Model B5	(PrevOwn + WE) – PromOwn – AC - JS	2781.370	896	375.148*	0.082	0.739	0.724	31855.652	32372.187
Model B6	(PrevOwn + Ac) – PromOwn – WE - JS	2783.463	896	377.241*	0.082	0.738	0.724	31857.745	32374.279
Model B7	(PrevOwn + JS) – PromOwn – WE - AC	2784.937	896	378.715*	0.082	0.738	0.724	31859.219	32375.754
Model B8	(WE + AC) – PromOwn – PrevOwn - JS	2611.297	896	205.075*	0.078	0.762	0.749	31685.579	32202.114
Model B9	(WE + JS) – PromOwn – PrevOwn -AC	2501.880	896	95.658*	0.076	0.777	0.765	31576.163	32092.697
Model B10	(AC + JS) – PromOwn – PrevOwn - WE	2564.579	896	158.357*	0.077	0.769	0.756	31638.861	32155.395
Model C	<i>Three-factor model</i>								
Model C1	(PromOwn + PrevOwn + WE) – AC - JS	3181.717	899	775.495*	0.090	0.684	0.667	32249.999	32755.304
Model C2	(PromOwn + PrevOwn + AC) – WE - JS	2847.778	899	441.556*	0.083	0.730	0.716	31916.060	32421.365

Model C3	(PromOwn + PrevOwn + JS) – WE - AC	3063.403	899	657.181*	0.088	0.700	0.684	32131.685	32636.991
Model C4	(PromOwn + WE + AC) – PrevOwn - JS	2893.462	899	487.24*	0.084	0.724	0.709	31961.744	32467.049
Model C5	(PromOwn + WE + JS) – PrevOwn - AC	2898.449	899	492.227*	0.084	0.723	0.708	31966.731	32472.037
Model C6	(PromOwn + AC + JS) – PrevOwn - WE	2731.476	899	325.254*	0.081	0.746	0.733	31799.759	32305.064
Model C7	(PrevOwn + WE + AC) – PromOwn - JS	2985.773	899	579.551*	0.086	0.711	0.696	32054.055	32559.360
Model C8	(PrevOwn + WE + JS) – PromOwn - AC	2877.208	899	470.986*	0.084	0.726	0.711	31945.490	32450.795
Model C9	(PrevOwn + AC + JS) – PromOwn - WE	2941.155	899	534.933*	0.085	0.717	0.702	32009.437	32514.743
Model C10	(WE + AC + JS) – PromOwn - PrevOwn	2694.200	899	287.978*	0.080	0.751	0.738	31762.482	32267.788
Model D	<i>Two-factor model</i>								
Model D1	(PromOwn + PrevOwn + WE + AC) - JS	3265.681	901	859.459*	0.092	0.672	0.656	32329.964	32827.783
Model D2	(PromOwn + PrevOwn + WE + JS) - AC	3270.453	901	864.231*	0.092	0.672	0.655	32334.735	32832.554
Model D3	(PromOwn + PrevOwn + AC + JS) - WE	3104.745	901	698.523*	0.089	0.695	0.679	32169.027	32666.847
Model D4	(PromOwn + WE + AC + JS) - PrevOwn	2985.392	901	579.17*	0.086	0.711	0.697	32049.675	32547.494
Model D5	(PrevOwn + WE + AC + JS) - PromOwn	3068.921	901	662.699*	0.088	0.700	0.685	32133.204	32631.023
Model E	<i>One-factor model</i>								
Model E1	(PromOwn + PrevOwn + WE + AC + JS)	3357.459	902	951.237*	0.093	0.660	0.643	32419.741	32913.818

Note: $N = 312$, χ^2 =chi-squared; RMSEA = root-mean-square error of approximation; CFI = comparative fit index; TLI = Tucker & Lewis index; AIC = Akaike information criterion; BIC = Bayesian information criterion; PromOwn = Promotive Ownership; PrevOwn = Preventative Ownership; WE = Work Engagement; AC = Affective Commitment; JS = Job Satisfaction.

Table 7-22
Discriminant
Validity

7.4 Discussion

In this chapter the linkages between work engagement and promotive and preventative psychological ownership have been examined along with their interactions with job demands, affective commitment, job satisfaction and perceived supervisor support. Further, the contribution of employee psychological ownership in the JD-R Model and SET was assessed by observing i) the mediating effects of promotive psychological ownership on the relationship between job demands and work engagement, ii) the mediating effects of job satisfaction and affective commitment on the relationship between promotive psychological ownership and work engagement, and iii) the mediating effect of promotive psychological ownership on the relationship between perceived supervisor support and work engagement.

Specifically, both promotive and preventative psychological ownership are positively related to work engagement, thus confirming H1 and H2. Mental demands, emotional demands and positive work-home interference are positively related to both work engagement and promotive psychological ownership, thus providing some support for H3 and H4. Promotive psychological ownership mediates the relationship between job demands (mental, emotional and positive work-home interference) and work engagement, hence confirming H5, and offering some empirical support for the extension of the JD-R Model and SET argued for in Chapter 3 of this thesis. In addition, affective commitment and job satisfaction mediate the relationship between promotive psychological ownership and work engagement, thus confirming H6 and H7. Promotive psychological ownership mediates the relationship between perceived supervisor support and work engagement (H8). Last, the results support the distinctiveness of promotive psychological ownership, preventative psychological ownership, work engagement, affective commitment and job satisfaction, thus supporting H9. Therefore, all the hypotheses (H1-9) set out in Chapter 4 have been addressed and confirmed.

Table 7-2 reports pairwise correlations between the independent variables which are generally low (lower than 0.7), suggesting that multicollinearity is not driving the findings of the final study (Grewal et al., 2004). In addition, as

discussed in relation to the pilot study, the effects of multicollinearity are reduced where there is an adequate sample size (Goldberger, 1989; Cohen, 1992; MacCallum et al., 1996). The response rate in this study is 85% and the resulting sample size is 312 employees. This size exceeds those suggested by the literature (Sivo et al., 2006; Garver and Mentzer, 1999; Bollen, 1989; Bentler and Chou, 1987; Boomsma, 1985; 1982; Hoelter, 1983; Nunnally, 1967). Notably, all the research questions in this thesis have been confirmed, indicating that even if multicollinearity were present in the data it is not severe enough to create Type II errors.

7.5 Conclusion

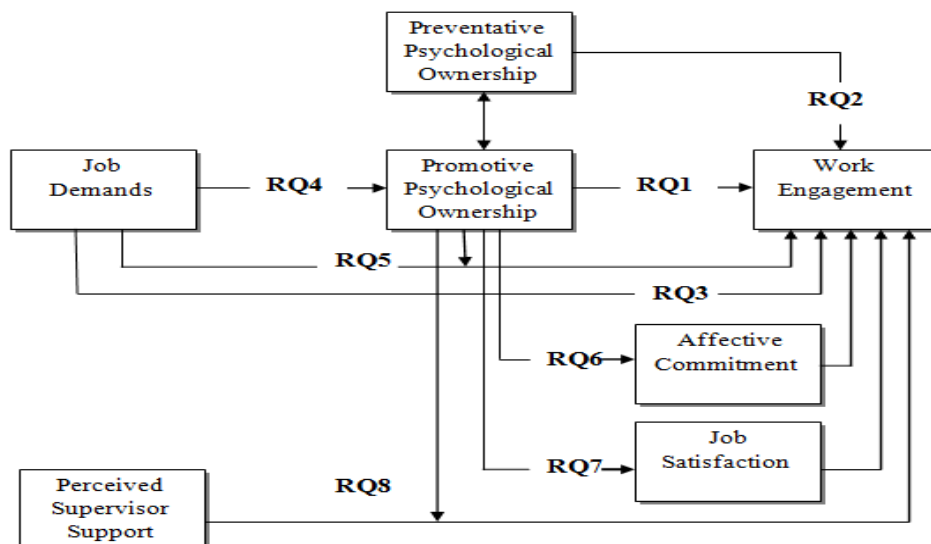
In conclusion, in this chapter the theoretical linkages that were discussed earlier in this study were tested and the findings were illustrated. The above findings have supported and extended the existing literature by addressing all the study's hypotheses set out in Chapter 4. The structural relationships obtained present the contribution of this research towards the extension of the JD-R Model and SET.

Chapter 8

Conclusion

The current research addresses the relationship between employee psychological ownership and work engagement. Psychological ownership is a construct that was introduced in the academic literature in the beginning of the 1990's and so far only a few studies show support for its relationship with other work-related attitudes. Further, the nature of employee psychological ownership has been explained in the context of the JD-R Model and Social Exchange Theory for the first time, thus offering more theoretical development of employee psychological ownership. This study supports for the first time in the literature that employee psychological ownership can be integrated with the Job Demands-Resources Model by considering it as a sum of job and personal resources. Subsequently, the exchange of these job and personal resources creates work engagement.

Figure 8-1
Research Questions



Specifically, research questions 1-8 have been addressed with reference to the empirical findings. Theoretical concepts and results concerning these research questions were explained and discussed in each of these chapters.

The objective of the current chapter is to synthesise the main findings of the study and reach implications in a wider context of the organisational behaviour literature. To begin with, the main empirical findings are discussed (subsection 8.1) in order to provide an overall evaluation of the contributions in this thesis. This is followed by the key theoretical contributions obtained from examining the employee psychological ownership-work engagement relationship within the JD-R Model and SET (subsection 8.2). Next, key practical implications are provided (subsection 8.3), followed by a discussion on limitations and potential areas for future research (subsection 8.4) and a concluding remark regarding this particular research endeavor (subsection 8.5).

8.1 The Findings

This thesis has had the goal of observing the relationship between employee psychological ownership and work engagement and establishing the conceptual and empirical linkages between employee psychological ownership and work engagement, job demands, affective commitment, job satisfaction and perceived supervisor support.

First, promotive and preventative psychological ownership appear to be positively and significantly related to work engagement. Earlier literature suggests that the two types of employee psychological ownership, promotive and preventative, should be measured separately. Discriminant validity results in this thesis also confirmed the earlier literature that promotive and preventative psychological ownership are distinct. Therefore, in the present thesis employee psychological ownership was measured in two different ways, namely: promotive ownership and preventative ownership (territoriality).

Second, as far as the job demands are concerned, mental demands and positive work-home interference are positively related to work engagement.

Both job demands fall into the category of challenge stressors and are supposed to motivate employees and enhance the achievement of their personal goals (subsections 2.4; 5.3.1). Hence, this finding is consistent with the recent literature supporting that not all job demands are harmful (Podsakoff et al., 2007; LePine et al., 2005). Last, the demand changes in the organisation do not present any significant relationship with employee psychological ownership and work engagement. However, this finding can be explained by the literature which suggests that job demands are not necessarily related to work engagement (Schaufeli and Bakker, 2004).

Further, emotional demands are positively related to work engagement. Emotional demands, as explained earlier (subsections 2.4; 5.3.1) are considered hindrance stressors which are associated with costs (Demerouti and Bakker, 2011). This finding, although different from the literature, should be considered in light of this study's context. Specifically, the data were collected from a Greek public organisation where radical changes are taking place and during financial recession. In this context emotional demands may help employees who have to deal with emotional situations and demanding customers (Van Veldhoven and Meijman, 1994). These challenging situations may engage employees more in their work and make them more resilient to overcome difficult situations. It may be the case that emotional demands during times of organisational reforms enable employees to become more vigorous, dedicated and absorbed in their work as a way to deal with the difficulties faced in their work environment.

Third, perceived supervisor support (PSS) is positively and significantly related to work engagement. In line with earlier literature, perceived supervisor support is an important antecedent of employee engagement (Saks, 2006) and lack of supervisor support has been found to be linked to burnout (Maslach et al., 2001). Therefore, this study confirmed earlier findings although it was conducted in a different context.

Fourth, promotive psychological ownership is positively and significantly related to mental demands and positive work-home interference which are both challenge stressors. Promotive psychological ownership is positively and

significantly related to emotional demands, which are seen as hindrance demands. However, this could be explained by the specific context under which this study was conducted. As explained earlier for work engagement, employees working in organisations under change may feel that emotional demands will enhance their motivation.

Fifth, promotive psychological ownership is positively related to job satisfaction and affective commitment. These findings are consistent with earlier literature which suggests that psychological ownership is positively related to affective commitment (Liu et al., 2012; Mayhew et al., 2007; O'Driscoll et al., 2006; Van Dyne and Pierce, 2004; Pierce et al., 2001; Vandewalle et al., 1995) and job satisfaction (Mayhew et al., 2007; Van Dyne and Pierce, 2004).

Sixth, promotive psychological ownership mediates the relationship between mental demands, emotional demands and positive work-home interference and work engagement. This is consistent with the literature discussed in Chapters 2, 3 and 4. Specifically, promotive psychological ownership is a combination of job and personal resources and as such it mediates the relationship between job demands and work engagement. This finding supports the mutual relationship between job and personal resources, represented by promotive psychological ownership and, thus, extends the JD-R Model.

Seventh, affective commitment and job satisfaction, when in the same model, mediate the relationship between promotive psychological ownership and work engagement. When affective commitment and job satisfaction are in separate models, job satisfaction mediates partially the relationship between promotive ownership and work engagement; meanwhile, affective commitment mediates the relationship between promotive ownership and work engagement. Affective commitment and job satisfaction, either tested separately or in the same model, mediate the relationship between promotive psychological ownership and work engagement. However, the results indicate that the model where the two mediators are tested together is better than the models where the mediators are tested separately. Also, promotive

psychological ownership mediates the relationship between perceived supervisor support and work engagement. Therefore, the study's hypotheses with regard to i) the mediating role of affective commitment and job satisfaction and ii) the mediating role of promotive psychological ownership are confirmed and demonstrate the importance of employee psychological ownership as a construct by showing relationships that had not been tested before.

Moreover, this study measured changes in the organisation as a challenge job demand. This study did not indicate any significant result between changes in the organisation and promotive psychological ownership and work engagement. It is important to highlight that the academic literature considers changes in the organisation as a challenge that will make employees more resilient and will help them to deal with job stressors (Podsakoff et al., 2007; LePine et al., 2005). However, in this thesis the sample range was focused on a Greek public organisation. Changes in the Greek labour sector have been both large and frequent since the beginning of the recession and these changes taking place may be quite common to all the respondents. The ubiquity of these large scale system level changes could explain why there are no significant results regarding changes in the organisation, promotive psychological ownership and work engagement.

Taken together, the results have provided evidence that employee psychological ownership is a construct that deserves academic attention. This study addresses the relationship of psychological ownership with other work-related attitudes for the first time and highlights that a new route enabling the creation of work engagement has been identified. This new addition to the current knowledge can create a better understanding of work engagement and of the ways it is developed and created.

8.2 Theoretical Contribution

In discussing theoretical implications, this thesis has been inspired by ongoing debates regarding what actually creates work engagement. Despite employee engagement having been researched for almost two decades, the academic literature still calls for academic research to explore and deepen the understanding of the construct and reveal more details about the emergence of work engagement (Schaufeli, 2012). This call was accompanied by the fact that employee psychological ownership is a less researched topic, and has never before been conceptualised in relation to many important work-related attitudes or as part of the JD-R Model, although its nature dictates a close connection with the JD-R Model and SET. Therefore, this research evaluated the employee psychological ownership concept, embedded it within the JD-R Model and within SET, and demonstrated employee psychological ownership's significant relationship with work engagement. Research in the field of work engagement has indicated a number of antecedents but this thesis is the first piece of research to establish the relationship between psychological ownership and work engagement.

Establishing the relationship between employee psychological ownership and work engagement in the context of the JD-R Model and SET represents a further contribution to theory. This thesis addressed the need to further study the consequences of employee psychological ownership and antecedents of work engagement as discussed in section 3.3. Specifically, promotive psychological ownership, as a combination of job and personal resources, enables the creation of work engagement. Second, preventative psychological ownership, or else territoriality, is a personal resource that makes employees more protective towards their work and at the same time motivates employees to work harder. Although territoriality has a negative connotation in much of the literature, it is positively linked to work engagement and as such contributes to our understanding of some of the negative aspects of work engagement, and deepens our understanding of engagement as a result.

Third, this is the first study to demonstrate the discriminant validity of promotive psychological ownership, preventative psychological ownership

(territoriality), work engagement, job satisfaction and affective commitment. This suggests that employee psychological ownership, as conceptualized by Avey et al. (2009), is a valid and distinct construct that deserves academic attention. This study establishes employee psychological ownership as a construct that is clearly distinct from other “psychological state” constructs, thereby addressing an important question in the literature on employee psychological ownership (Dawkins et al., 2015). Last, this thesis provides more evidence that the UWES approach to operationalizing engagement is clearly separate from its attitudinal determinants, hence offering unique value in this area (Halbesleben and Wheeler, 2008).

Fourth, this study addressed the need for more theory development around employee psychological ownership (Dawkins et al., 2015) by examining this concept for the first time in the literature in the context of the JD-R Model and SET. This thesis is the first to argue that employee psychological ownership is a combination of job and personal resources that is related to work engagement. This thesis shows that employee psychological ownership is a new way of incorporating personal resources in the JD-R Model and addresses this need as noted by Schaufeli and Taris (2014). Employee psychological ownership also supports the mutual relationship between job and personal resources that had been suggested (Bakker and Demerouti, 2008) but had not been tested empirically. Therefore, employee psychological ownership represents the reciprocity entailed in the JD-R Model and SET. Employee psychological ownership not only shows a new way of incorporating personal resources to the JD-R Model but it also promotes the understanding and importance of the concept when it is examined within this specific theoretical framework.

Fifth, this is the first study to show that promotive psychological ownership is a combination of job and personal resources which enable employees to deal with their job demands and reciprocate their organization with work engagement. Specifically, promotive ownership mediates the relationship between mental demands and work engagement. Promotive ownership also mediates the relationship between emotional demands and work engagement.

Last, promotive ownership mediates the relationship between positive work-home interference and work engagement. The fourth and fifth contributions extend the JD-R Model, which used to consider job resources and personal resources separately. Promotive psychological ownership is established, for the first time in the literature, in the JD-R Model as a combination of job and personal resources and mediates the relationship between job demands and work engagement. Therefore, promotive psychological ownership, or else the four job and personal resources, enables employees to deal with job demands and become engaged.

Sixth, this thesis is the first to examine the mediating effect of job satisfaction and affective commitment in the relationship between promotive psychological ownership and work engagement. This contribution is underpinned by the theoretical framework of SET and the JD-R Model. Specifically, when employees own these four job and personal resources (self-efficacy, self-identity, accountability and belongingness) they become more satisfied with their job, more affectively committed to their organization and they reciprocate with work engagement. Therefore, promotive psychological ownership enhances feelings of job satisfaction and affective commitment and employees reciprocate with work engagement.

Seventh, this thesis is the first to examine the relationship between perceived supervisor support, promotive psychological ownership and work engagement. This contribution is supported by the novel suggestion to integrate the JD-R Model with SET. Specifically, perceived supervisor support fosters the availability of job and personal resources the exchange of which is related to work engagement. In other words, perceived supervisor support fulfills the employees' needs for self-efficacy, self-identity, belongingness and accountability and employees reciprocate with work engagement. These last two contributions increase the understanding under which work engagement is created in organisations and establish further promotive psychological ownership in the JD-R Model and SET.

The above contributions highlight the need to focus on the creation of promotive psychological ownership and better observe its contribution to the JD-R Model and SET. Apart from the theoretical contributions, there are also some essential practical implications that will be explained in the next section.

8.3 Practical Implications

Whilst this research was generated with the aim of contributing to the current academic knowledge, with its findings having provided theoretical contributions to the field, its implications for the HR practitioners and organisations are also highly relevant. The key outcome here is that organisations can benefit, in terms of higher levels of work engagement, by focusing on the development of higher levels of employee psychological ownership. The underlying mechanism that underpins this relationship involves the realisation that psychological ownership is a valid construct that exists not only in people's everyday private life but also in the workplace. The idea of psychological possession that characterises this concept is also made significant within the boundaries of business organisations.

From a practical perspective, organisations and HR managers are strongly encouraged to assess and evaluate their subordinates' feelings and level of psychological ownership, since the latter is a key indicator of the resources offered by organisations. Specifically, employee psychological ownership is represented by job and personal resources that will not only enhance the employees' well-being, but can also motivate them and make them eager and psychologically more resilient to deal with the job demands, burnout and exhaustion. In other words, a strong sense of psychological ownership will build upon the creation of an engaged workforce.

The current knowledge indicates that organisations should focus their attention on offering their employees both job and personal resources, which so far have been considered as two different things. However, the present thesis makes the relationship between job and personal resources and work engagement less complicated, more explicit and more easily applicable. That said, organisations and HR managers can view job and personal resources as a mixture molded into one single concept. The practicality of this suggestion is based on the fact that HR managers can now turn their attention to the development of one single attitude, the employee psychological ownership. The latter is able to cover the complexity of the interaction between job and

personal resources without undermining their leading importance towards the creation of work engagement.

Specifically, HR managers could offer their employees some degree of control and autonomy over their job so that employees will think that they actually own their jobs. HR managers can also provide their employees with a good amount of information about their jobs and the organisation. As discussed earlier (section 2.3) deep knowledge of the job, the organisation and the factors surrounding them will make the employees feel as if they have some degree of power and influence in their jobs and organisation. Managers are responsible for creating supportive workplaces and encouraging employees to develop themselves and to participate in important decisions (Whitener et al., 1998). Thus, the managerial role is crucial in creating meaningful work environments (Romanou et al., 2009; May et al., 2004).

HR managers can provide their subordinates with the necessary tools to enable them to invest themselves in their jobs and increase the perceived levels of psychological ownership. The top management is responsible for offering employees the right of working on a diverse range of tasks and projects and encouraging workers to develop their creative self. Further, the top management in organisations is encouraged to provide employees with the necessary training so that employees will have the skills to deal with the information and power associated with psychological ownership.

In addition to the above, it is suggested that academic research should provide HR managers and practitioners with powerful tools that will enhance the employees' work engagement. However, it is not enough to make suggestions that practitioners cannot appreciate or make use of. What is of high importance is that academic research informs practice in not a simplistic way but rather in an explicit and "ready to use" formula. To this end, the present thesis aspires that the practical application of this research's findings will meet strong supporters in the business field. In other words, this study offers a new direct way that leads to work engagement. Further, the interaction between job and personal resources is made more explicit. Last, employee psychological ownership finds its position in the amalgam of work-related

attitudes and in spite of taking place inherently, its importance is now revealed.

8.4 Limitations and Directions for Future Research

This research has provided a sound foundation for future research in the field of organisational behaviour since the JD-R Model and SET were employed to explain the relationships between the main study variables. The present researcher is of the opinion that the empirical model applied to this research was strongly embedded in the current research needs of the organisational behaviour field.

Whilst this research adopted a conceived method to test the model, generalisability of the results is somewhat limited because the findings were generated from the narrow focus of one specific organisation, i.e. service employees in one public organisation operating in Greece. Further, the sample used in this study may have affected the results since it included mainly a male population, approximately 53% were over 46 years old and the majority of them belonged to the administrative level of the hierarchy. However, the use of one single organisation in that specific context allowed for a more precise observation of the study variables as the researcher was able to exercise a greater degree of control over the contextual implications of the findings.

Moreover, in order to be able to generalise the findings of this research and to avoid having data from one single source, a pilot study was conducted in a public Greek organisation, operating in the west part of Greece. This organisation was distinct from the one used for the final data collection. Further, the main aim of the present thesis was not the generalisability of the findings, but rather to test the theoretical relationships that were firmly supported by empirical evidence.

Nevertheless, future research can observe the identified relationships in other job groups and/or in different business sectors further, so as to elicit differences and similarities with regard to the present outcomes. For example, it may be the case that the relationship between employee psychological

ownership and work engagement is stronger in the public sector in comparison to private sector employees because of the specific features within the public sector. Therefore, future research could assess whether the outcomes can be replicated and hence, some degree of generalisability, retrospectively, can be conferred on these findings.

Furthermore, the empirical analysis presented in this study is a result of cross-sectional data. Specifically, the relationships expressed in the applied model are based on variance theories (Van de Van, 2007), in which a set of independent variables, i.e. employee psychological ownership, affective commitment, job satisfaction, perceived supervisor support and a set of job demands (hindrance and challenge demands/stressors), have explained in statistical terms the variation in the dependent variable, i.e. work engagement. However, this research can only provide results for the theoretical linkages as they are suggested by the academic literature. That said, the cross-sectional design of this study does not allow for reaching safe conclusions about the causal ordering concerning the variables under observation. However, common method variance was assessed (subsection 5.4) and it was shown that it was unlikely that common method variance was biasing the empirical results of this thesis. That said, now that this thesis has demonstrated the existence of a series of important relationships between employee psychological ownership and work engagement and the other studied variables, future research could deploy a longitudinal approach to assess the causal ordering of these relationships with the confidence that the investment of these substantial resources is warranted.

8.5 Conclusion

This thesis extends the JD-R Model by showing that employee psychological ownership supports the mutual relationship between job and personal resources. Specifically, this thesis explains the concept of employee psychological ownership in the context of the JD-R Model and SET by incorporating it in the related literature and collecting data to empirically support the study hypotheses. The model applied in this research examined employee psychological ownership in relation to work engagement and job demands as well as affective commitment, job satisfaction and perceived supervisor support. Here, psychological ownership is considered to be a combination of job and personal resources and as such, it enriches the JD-R Model and a new direct route creating work engagement is offered.

The results have demonstrated that employee psychological ownership belongs as an integral part of the JD-R Model. Employee psychological ownership is represented by the same rules of reciprocity that characterise the JD-R Model and it is conceptually and empirically related to the challenge and hindrance demands. Employee psychological ownership has been shown to be positively related to work engagement and as such it could form part of the antecedents. However, employee psychological ownership is different from other work-related attitudes that are related to work engagement and have been expressed so far in the literature in the sense that it presents a conceptual diversification from them and it also expresses some of the JD-R Model's features that will make it a unique and integral part of the JD-R literature. Hence, these outcomes provide essential insights into what creates work engagement and the way job and personal resources contribute towards the creation of work engagement. Whilst additional research is required to explore these relationships further, this thesis provides firm theoretical foundations for any future investigations that entail the employee psychological ownership-work engagement relationship within the JD-R context and SET.

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Appendix 5-1

Study Variables

Study Variable	Measure	Source
Work Engagement	UWES-17 items	Schaufeli et al., 2006
Employee psychological ownership	EPO – 16 items	Avey & Avolio, 2007
Job satisfaction	Michigan Organizational Assessment Questionnaire – 3 items	Cammann et al. 1979
Affective Commitment	Affective Commitment – 8 items	Allen & Meyer, 1990
Perceived Supervisor Support	PSS – 4 items	Rhoades et al., 2001
Workload	Job Content Instrument – 5 items	Karasek, 1985
Mental demands	6 items	Karasek, 1989
Emotional demands	Questionnaire on the Experience and Evaluation of Work – 4 items	Van Veldhoven & Meijman, 1994
Emotional dissonance	5 items	Zapf et al., 1999
Organisational Changes	7 items	Bakker et al., 2003
Positive & Negative work-home interference	Work-home Interference NijmeGen	SWING; Wagena & Geurts, 2000

Appendix 5-2

Measurements - Question Items

Work Engagement (17 items, 5-point Likert scale):

1. At my work, I feel bursting with energy. (VI1)
2. At my job, I feel strong and vigorous. (VI2)
3. When I get up in the morning, I feel like going to work. (VI3)
4. I can continue working for very long periods at a time. (VI4)
5. At my job, I am very resilient, mentally. (VI5)
6. At my work, I always persevere, even when things do not go well. (VI6)
7. I find the work that I do full of meaning and purpose. (DE1)
8. I am enthusiastic about my job. (DE2)
9. My job inspires me. (DE3)
10. I am proud of the work that I do. (DE4)
11. To me, my job is challenging. (DE5)
12. Time flies when I am working. (AB1)
13. When I am working, I forget everything else around me. (AB2)
14. I feel happy when I am working intensely. (AB3)
15. I am immersed in my work. (AB4)
16. I get carried away when I am working. (AB5)
17. It is difficult to detach myself from my job. (AB6)

Employee Psychological Ownership (16 items, 5-point Likert scale):

Territoriality:

1. I feel I need to protect my ideas from being used by others in my organization.
2. I feel that people I work with in my organization should not invade my workspace.
3. I feel I need to protect my property from being used by others in this organization.
4. I feel I have to tell people in my organization to ‘back off’ from projects that are mine.

Self-efficacy:

5. I am confident in my ability to contribute to my organization’s success.
6. I am confident I can make a positive difference in this organization.
7. I am confident setting high performance goals in my organization.

Accountability:

8. I would challenge anyone in my organization if I thought something was done wrong.
9. I would not hesitate to tell my organization if I saw something that was done wrong.
10. I would challenge the direction of my organization to ensure it's correct.

Belongingness:

11. I feel I belong in this organization.
12. This place is home for me.
13. I am totally comfortable being in this organization.

Self-identity:

14. I feel this organization's success is my success.
15. I feel being a member in this organization helps define who I am.
16. I feel the need to defend my organization when it is criticized.

Job Satisfaction (3 items, 5-point Likert scale)

1. All in all, I am satisfied with my job.
2. In general, I like my job.
3. In general, I like working here.

Perceived Supervisor Support (4 items, 5-point Likert scale):

1. My supervisor cares about my opinions.
2. My supervisor cares about my well-being.
3. My supervisor considers my values.
4. My supervisor shows little concern for me (R).

Affective Organisational Commitment (8 items, 5-point Likert scale):

1. I would be very happy to spend the rest of my career with this organization
2. I enjoy discussing my organization with people outside it
3. I really feel as if this organization's problems are my own
4. I think that I could easily become as attached to another organization as I am to this one (R)
5. I do not feel like 'part of the family' at my organization (R)
6. I do not feel 'emotionally attached' to this organization (R)
7. This organization has a great deal of personal meaning for me
8. I do not feel a strong sense of belonging to my organization(R)

Social Desirability Scale (10 items, 5-point Likert scale):

1. You are always willing to admit it when you make a mistake.
2. You always try to practice what you preach.
3. You never resent being asked to return a favour.
4. You have never been annoyed when people expressed ideas very different from your own.
5. You have never deliberately said something that hurt someone's feelings.
6. You like to gossip at times.
7. There have been occasions when you took advantage of someone.
8. You sometimes try to get even rather than forgive and forget.
9. At times you have really insisted on having things your own way.
10. There have been occasions when you felt like smashing things.

CMV Indicator Scale (6 items, 5-point Likert scale):

(Psychological separation between WE and EPO scales)

1. I'd be happier if I could afford to buy more things
2. Buying things gives me a lot of pleasure
3. I admire people who own expensive homes, cars and clothes
4. My life would be better if I owned certain things I don't have
5. I like a lot of luxury in life
6. The things I own say a lot about how well I am doing in life

Job Demands

Job Demands were assessed on a 5-point Likert scale (1=never, 2=seldom, 3=sometimes, 4=frequently, 5=always)

Workload (5 items):

1. Do you have to work fast?
2. Do you have too much work to do?
3. How often do you need to work particularly hard so as to catch a deadline?
4. Do you work under time pressure?
5. Do you need to be focused on your work?

Mental demands (4 items):

1. Do you need to be focused on your work?
2. Does your job require extra care or precision?
3. Do you think that your job is mentally too demanding?
4. Does your job require your full attention?

Emotional demands (6 items):

1. Is your job emotionally tough?
2. Do you have to deal with things that touch you emotionally, in your job?
3. Do you deal with emotionally attached situations in your job?
4. In your job, do you have to deal with customers who complain all the time even if you try your best to serve them?
5. Do you have to deal with demanding customers?
6. Do you have to deal with customers that do not treat you with respect and kindness?

Emotional dissonance (5 items):

1. How often do you have to hide your emotions (e.g. anger) so that you show that you are neutral?
2. How often in your job are you not able to express your feelings (e.g. when you dislike someone)
3. How often in your job do you have to express certain feelings towards customers, which differ with what you really feel?
4. How often in your job do you have to express positive feelings to your customers, although in reality you feel totally neutral towards them?
5. How often in your job do you have to show understanding to annoying customers?

Changes in organisations (7 items):

1. Do changes take place in your organisation (in terms of personnel, products, procedures)?
2. During your current position, did you have to deal with restructuring?
3. Do you have to adjust to changes in your organisation?
4. Did the organisational structure change recently?
5. Did your team change recently?
6. Did your job change recently?
7. Did you have to deal with change in your duties recently?

Negative and Positive work-home Interference (6 items: 3 for NWHI and 3 for PWHI):

1. How often do you have difficulty in fulfilling your family obligations because you constantly think about your job? (NWHI)
2. How often are you not able to enjoy the company of your partner/family/friends, because you are worried about your job? (NWHI)
3. How often are you not able to fulfil your family obligations because of your schedule? (NWHI)

4. How often do you go home happy after a successful day at work and the atmosphere is influenced positively because of this? (PWHI)
5. How often does it happen that you enjoy doing things with your family/partner/friends because of a successful day/week at work? (PWHI)
6. How often can you manage your time at home better just because you have to do the same at work? (PWHI)

Individual Demographics:

Age

Gender

Education Level

Position

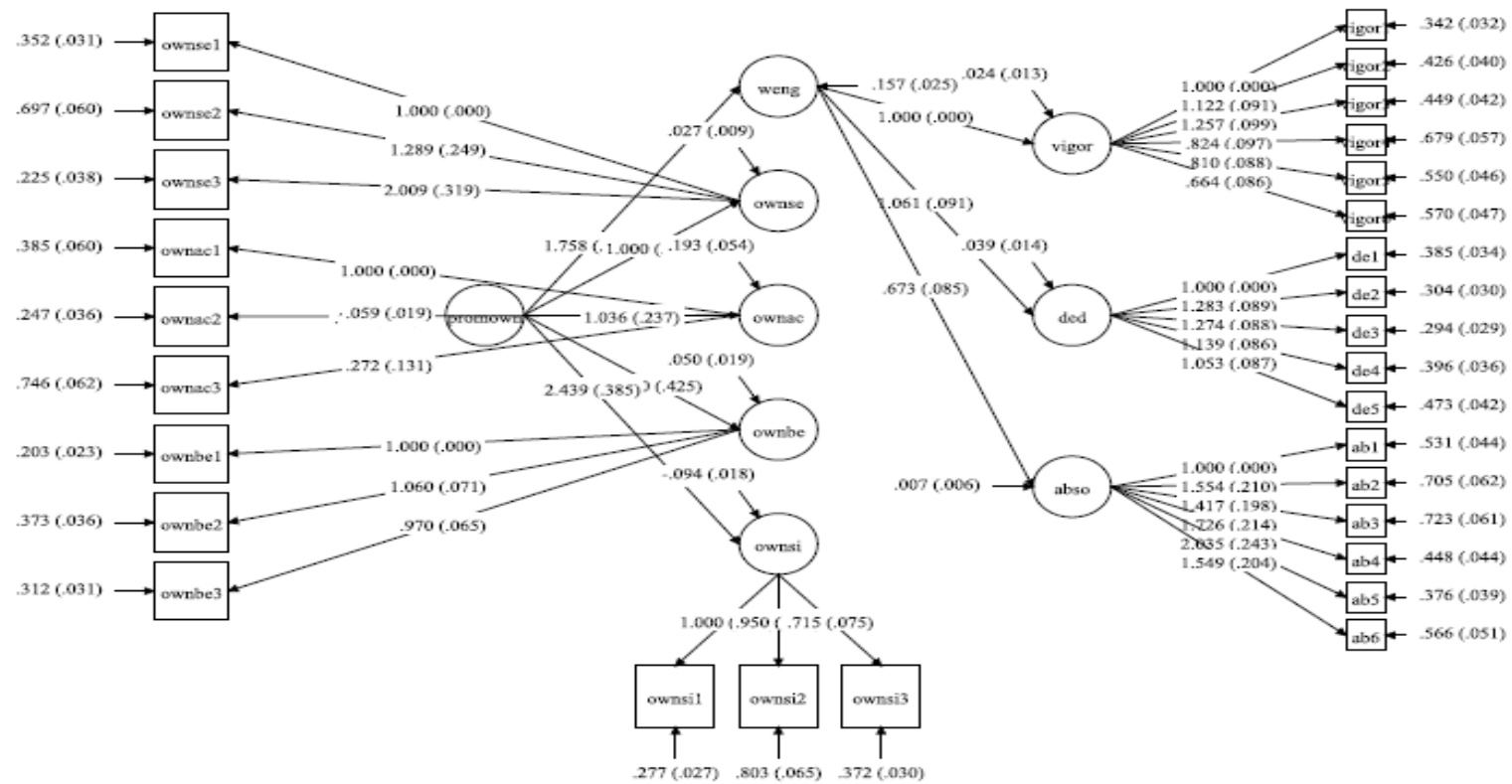
Working hours per week

Organisation Tenure

Sector Tenure

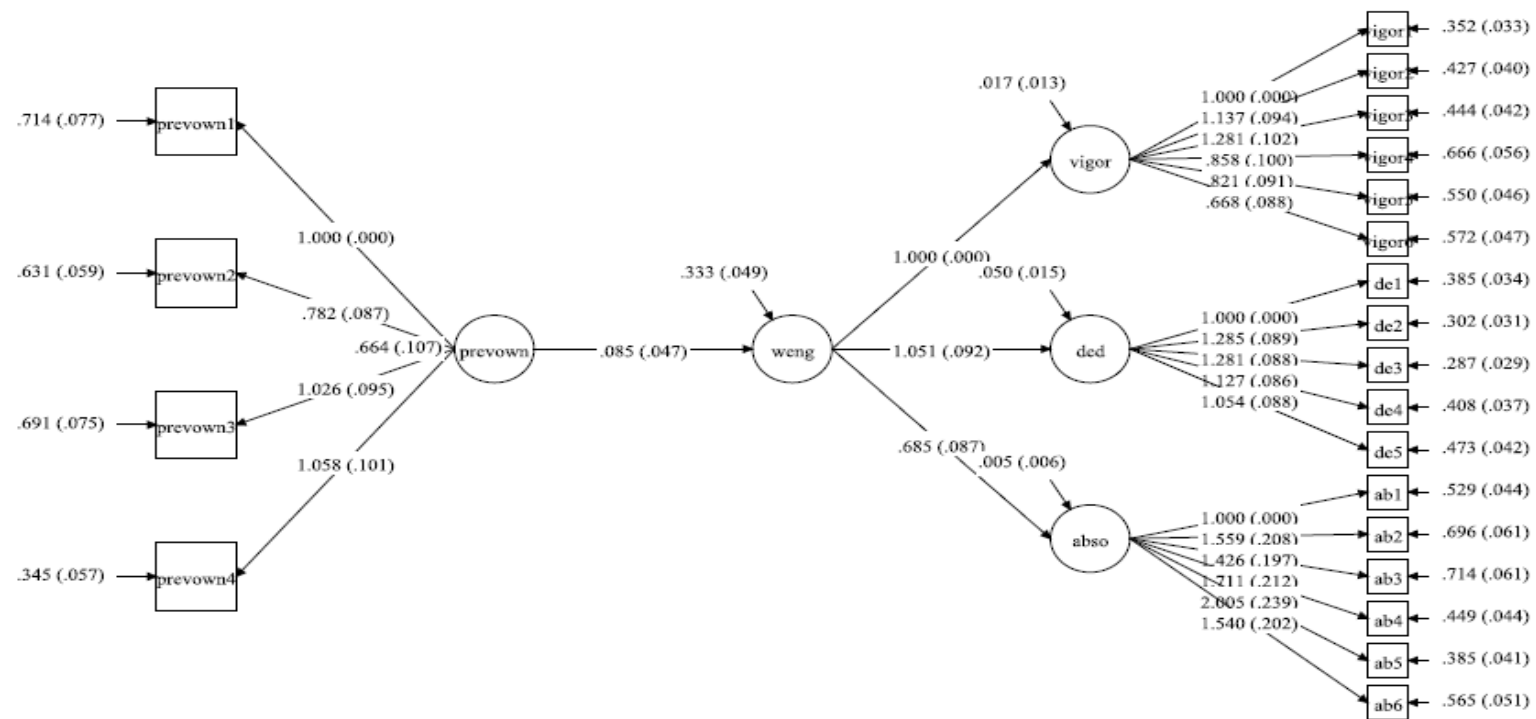
Appendix 7-1 (i)

Figure 7-1 (i): Model Specification for Work Engagement and Promotive Psychological Ownership



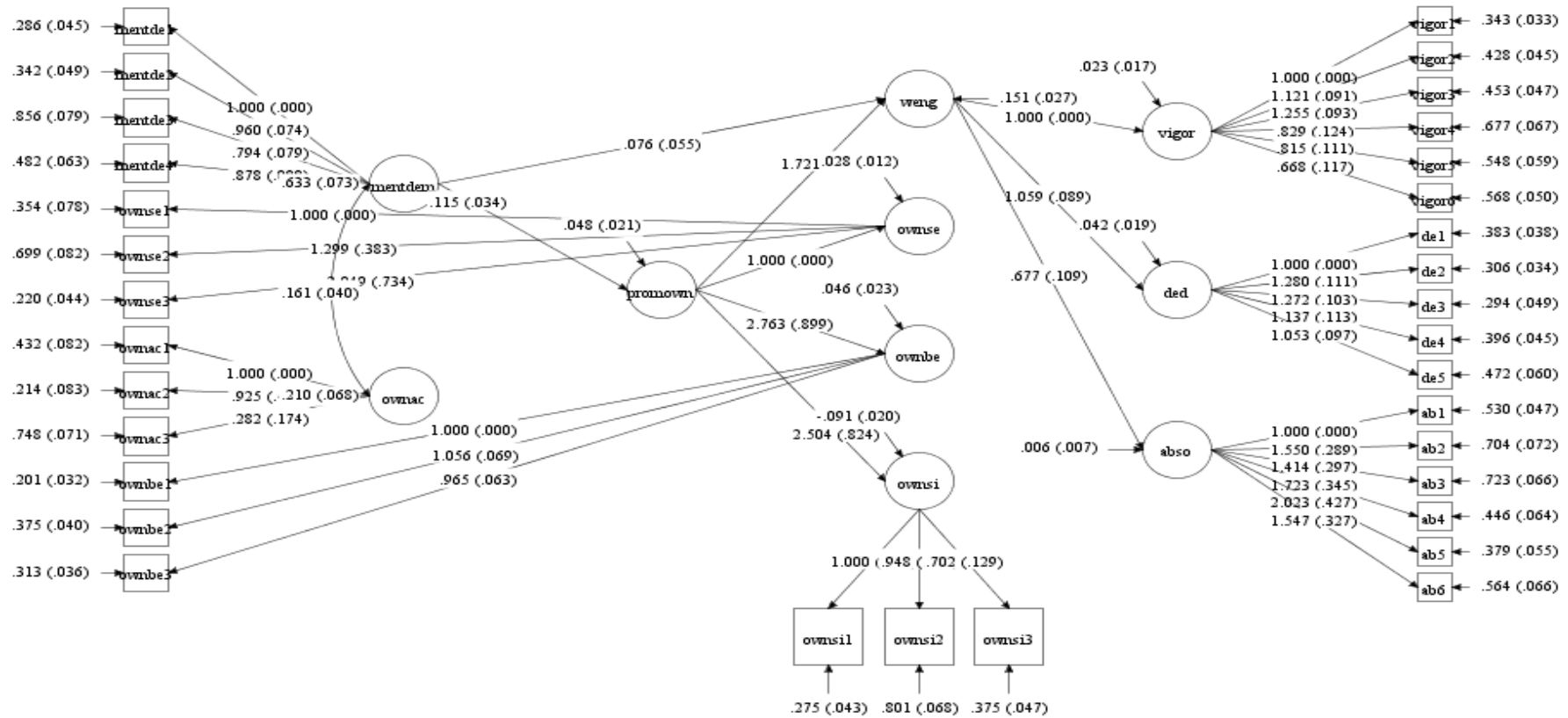
Appendix 7-1 (ii)

Figure 7-1(ii): Model Specification for Work Engagement and Preventative Psychological Ownership



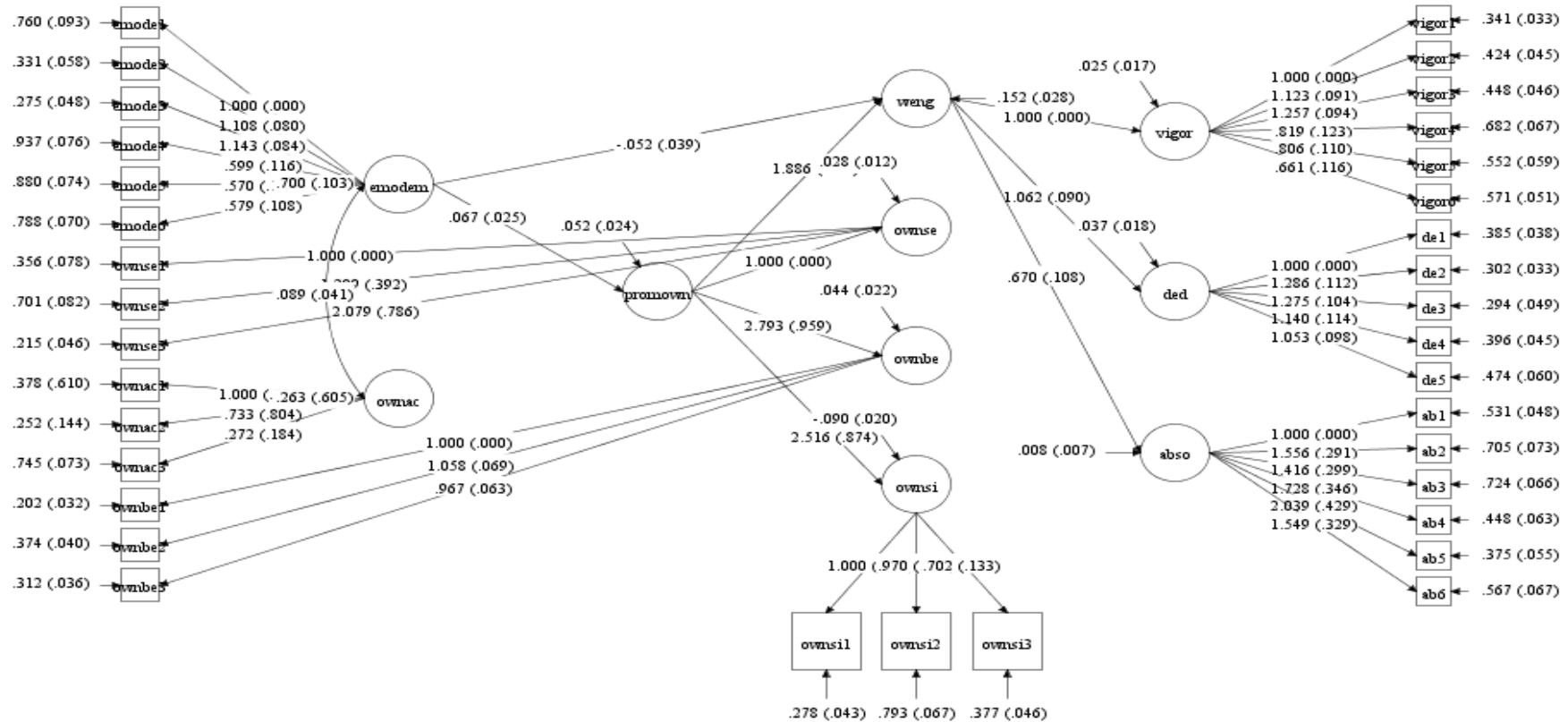
Appendix 7-2

Figure 7-2: Model Specification for Promotive Ownership Mediating Mental Demands and Work Engagement Relationship



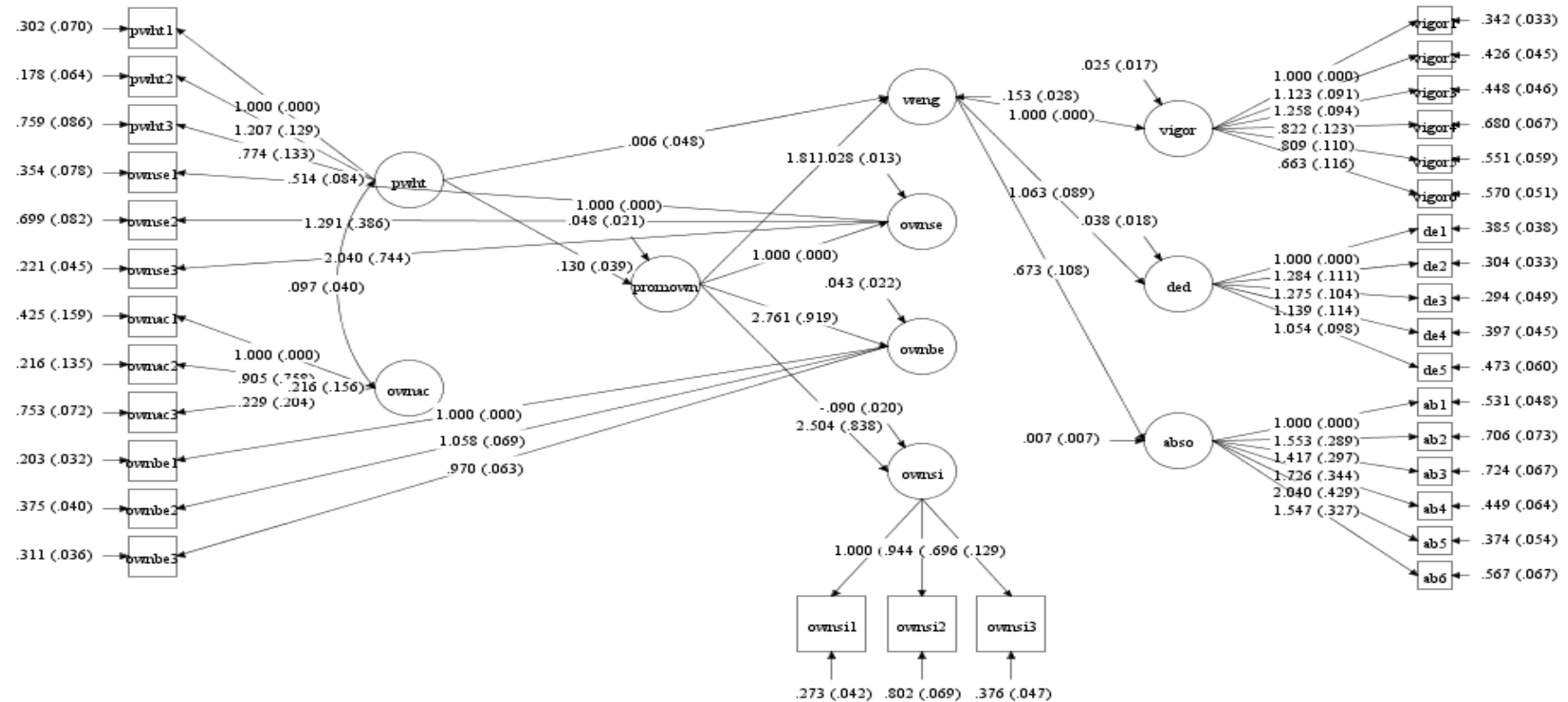
Appendix 7-3

Figure 7-3: Model Specification for Promotive Ownership Mediating Emotional Demands and Work Engagement Relationship



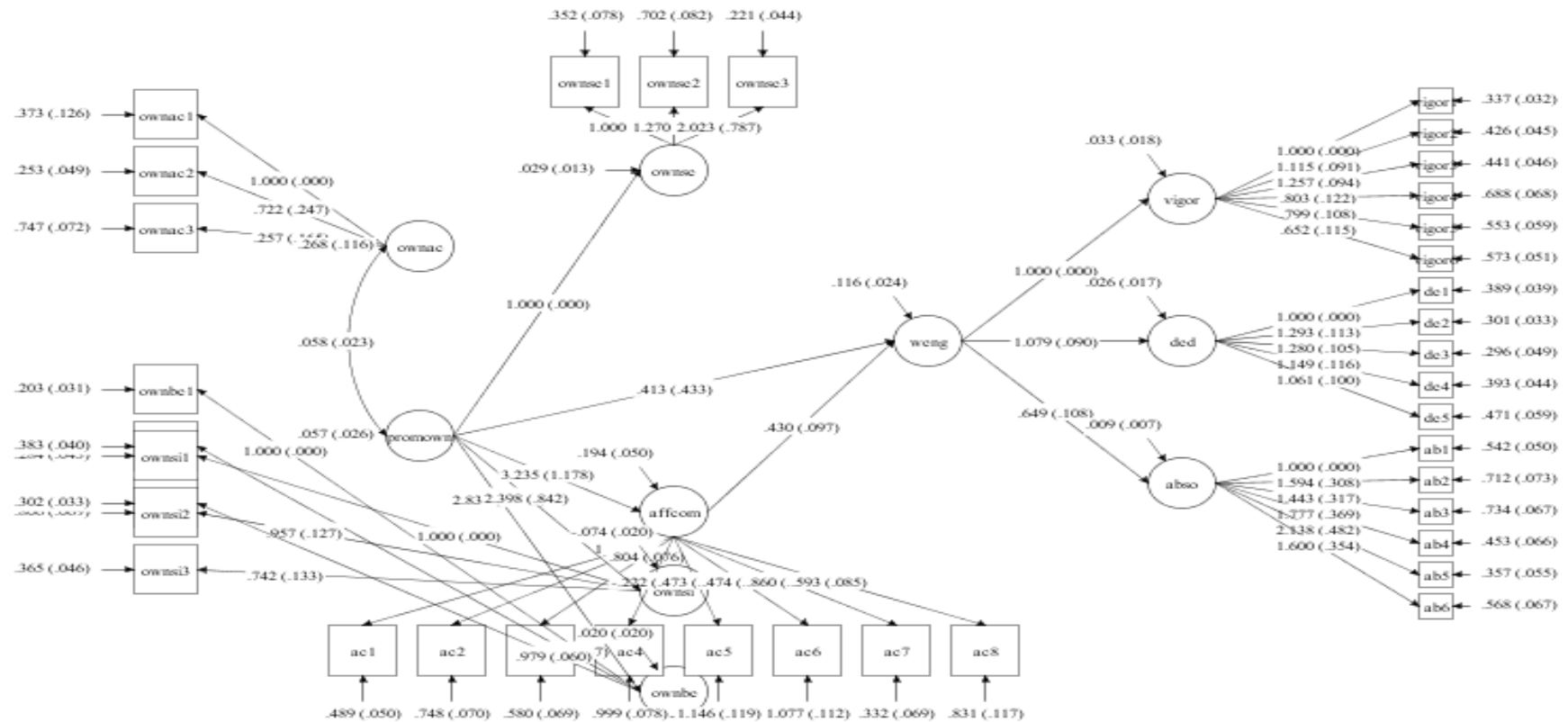
Appendix 7-4

Figure 7-4: Model Specification for Promotive Ownership Mediating Positive work-home interference and Work Engagement Relationship



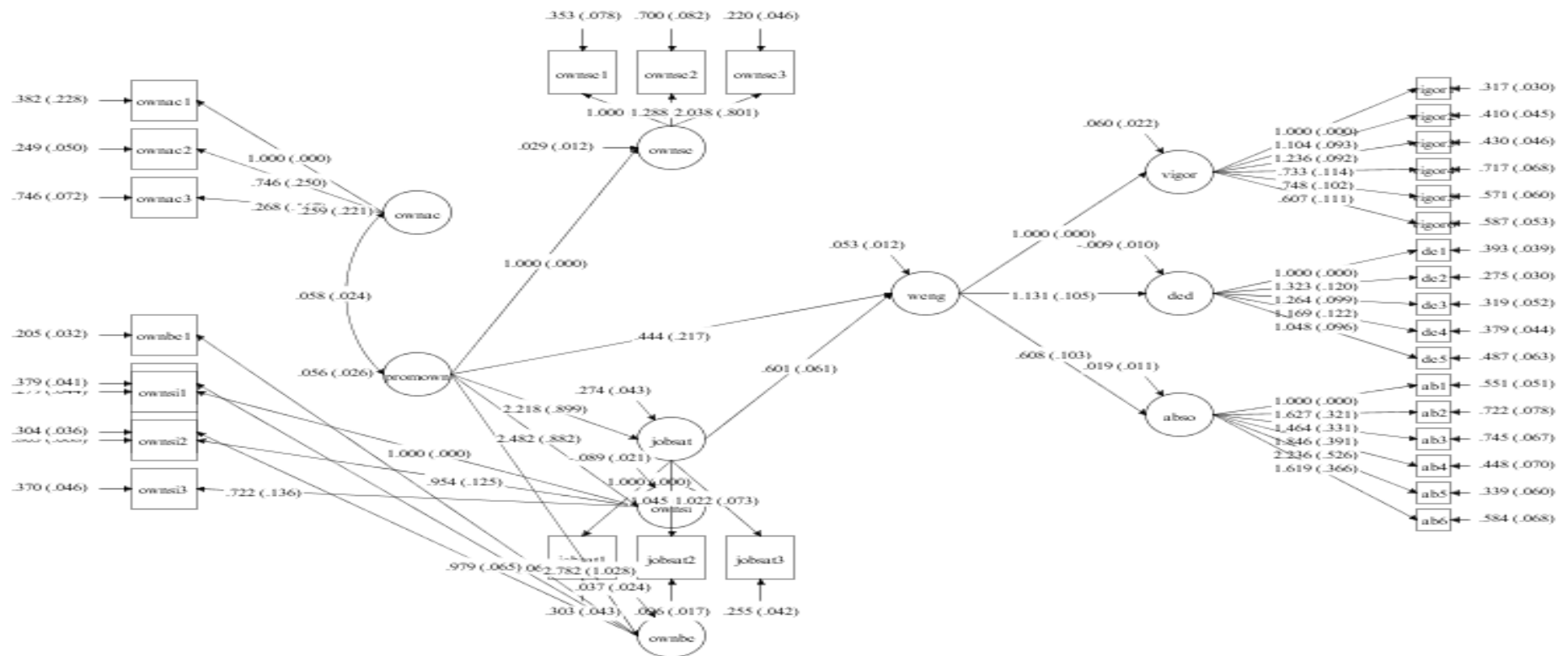
Appendix 7-5

Figure 7-5: Model Specification for Affective Commitment Mediating Promotive Ownership and Work Engagement Relationship



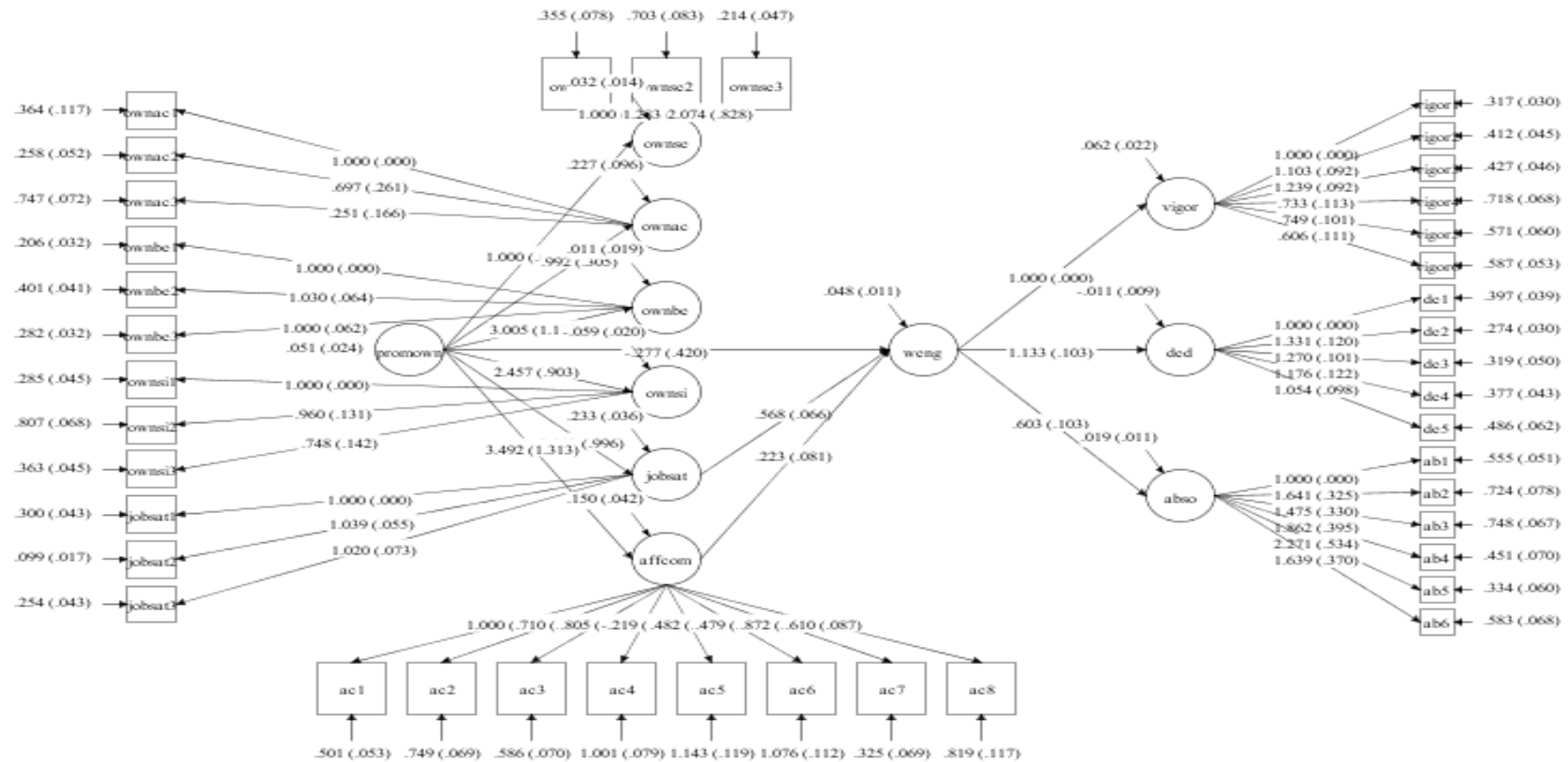
Appendix 7-6

Figure 7-6: Model Specification for Job Satisfaction Mediating Promotive Ownership and Work Engagement Relationship



Appendix 7-7

Figure 7-7: Model Specification for Job Satisfaction & Affective Commitment Mediating Promotive Ownership and Work Engagement Relationship



Appendix 7-8

Figure 7-8: Model Specification for Promotive Ownership Mediating Perceived Supervisor Support (PSS) and Work Engagement Relationship

